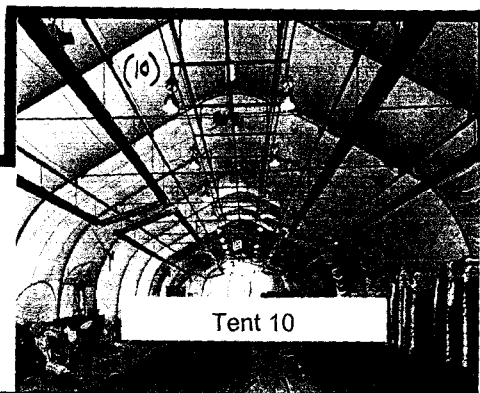


# **NOTICE:**

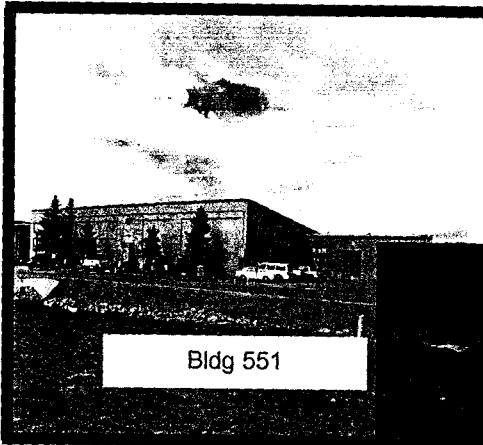
**"BEST AVAILABLE COPY"**

**PORTIONS OF THE FOLLOWING  
DOCUMENT ARE ILLEGIBLE**

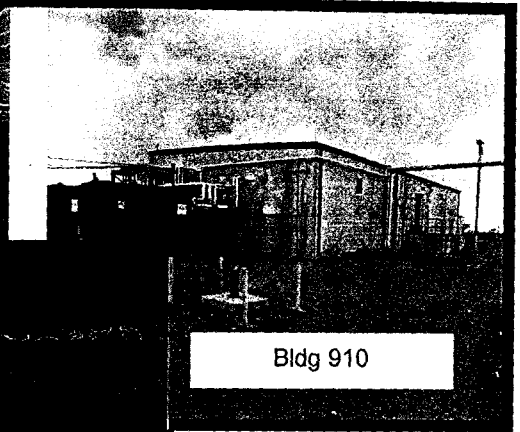
The Administrative Record Staff



Tent 10



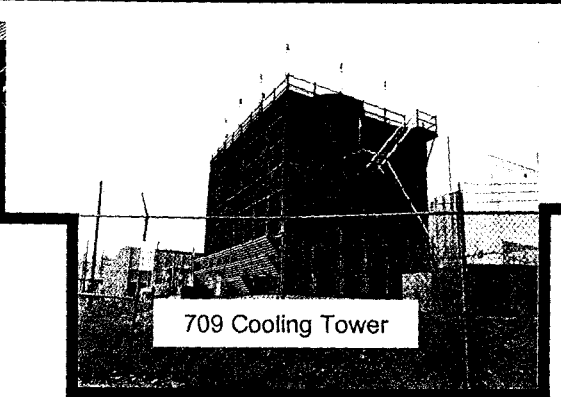
Bldg 551



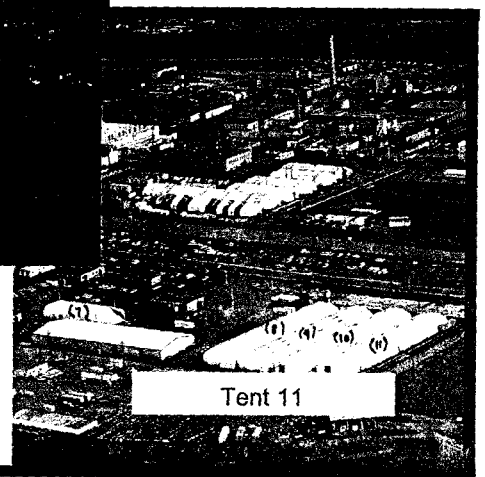
Bldg 910



Bldg 662



709 Cooling Tower



Tent 11

# RECONNAISSANCE LEVEL CHARACTERIZATION REPORT FOR GROUP A FACILITIES

REVISION 0

VOLUME 2 OF 2

October 14, 1999

4  
JUL 1 2000  
RECEIVED  
RECORDS CENTER

ADMIN RECORD

IA-A-000531

"ADMINISTRATIVE RECORDS COPY"

V 524



# **Appendix E**

## **Pad 904 Tent 10**

# INFORMATION ONLY CONTAMINATION SURVEY FORM

PAGE 1 OF 2

LOG NUMBER: _____	
FOR: _____ P/WRE _____ PRL _____	
_____ RWP _____ OTHER <u>Routine</u>	
BUILDING/LOCATION: <u>904 Pad</u>	ROOM: <u>Tent 10</u>
DATE: <u>1-16-98</u>	TIME: <u>0800</u>
ITEM DESCRIPTION: <u>Weekly Control Point Survey</u>	
COMMENTS: _____	
PERFORMED BY (PRINT NAME): <u>W. H. H. H.</u>	
RCT SIGNATURE: <u>[Signature]</u>	DATE: <u>1-16-98</u>
EMP#	

## REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR: \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_  
 MODEL: \_\_\_\_\_ S.A.C. - 4 \_\_\_\_\_ S.A.C. - 4 \_\_\_\_\_ S.A.C. - 4 \_\_\_\_\_  
 SERIAL #: 1050 959  
 CAL DATE: 7-16-97  
 CAL DUE DATE: 3-16-98

MFR: \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_  
 MODEL: \_\_\_\_\_ B.C. 4 \_\_\_\_\_ B.C. 4 \_\_\_\_\_ B.C. 4 \_\_\_\_\_  
 SERIAL #: Bc 770 Bc 838  
 CAL DATE: 1-7-98  
 CAL DUE DATE: 7-7-98

## TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR: \_\_\_\_\_ N.E. TECH \_\_\_\_\_  
 MODEL: \_\_\_\_\_ ELECTRA \_\_\_\_\_  
 SERIAL #: \_\_\_\_\_  
 CAL DATE: \_\_\_\_\_  
 CAL DUE DATE: \_\_\_\_\_  
 BACKGROUND: \_\_\_\_\_  
 EFFICIENCY: \_\_\_\_\_  
 MDA: \_\_\_\_\_

REVIEWED BY: Thyphor RO SUPERVISION PRINT NAME  
Chf 1/19/98 DATE  
 MDA = CF X [2.71 + 4.65] ☒ BACKGROUND (CPM)

PAGE

PAGE 2 OF 30

(DPM/100 CM<sup>2</sup>)

	<b>REMOVABLE</b>		<b>TOTAL ALPHA NUMBER EIA CODE</b>	<b>TOTAL BETA/ GAMMA</b>
	<b>ALPHA</b>	<b>BETAY GAMMA</b>		
	<18	<205		
	<18	<205		
	<18	<205		
	<18	<205		
	<18	<205		
	<18	<205		
	<18	<205		
	<18	<205		
	<18	<205		
	<18	<205		
	<18	<205		
	<18	<205		
	<16-98			

# FORMATION ONLY

## RADIOLOGICAL CONTAMINATION SURVEY FORM

PAGE 1 OF 1

LOG NUMBER:	
FOR: PWRE	PRL
RWP	OTHER ROUTINE
BUILDING/LOCATION: 904 PAD	ROOM: Tent 10
DATE: 1-16-98	TIME: 1450
ITEM DESCRIPTION: weekly survey	
COMMENTS:	
PERFORMED BY (PRINT NAME): J. Hankins	
RCT SIGNATURE	DATE: 1-16-98

### REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR: EBER. EBER. EBER.  
 MODEL: S.A.C.-4 S.A.C.-4 S.A.C.-4  
 SERIAL #: 1050 959  
 CAL DATE: 9-16-97 9-17-97  
 CAL DUE DATE: 3-16-98 3-12-98

MFR: EBER. EBER. EBER.  
 MODEL: B.C.4 B.C.4 B.C.4  
 SERIAL #: 770 838  
 CAL DATE: 1-7-98 1-6-98  
 CAL DUE DATE: 7-7-98 9-06-98

### TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR: N.E. TECH  
 MODEL: ELECTRA  
 SERIAL #:   
 CAL DATE:   
 CAL DUE DATE:   
 BACKGROUND:   
 EFFICIENCY:   
 MDA:   
 MDA = CF X [2.71 + 4.65 ☒ BACKGROUND (CPM)]

REVIEWED BY: THPsher  
 RO SUPERVISION PRINT NAME  
 DATE: 1/19/98

# RADIOLOGICAL CONTAMINATION SURVEY FORM

PAGE 2 OF 2

LOG NUMBER:

SURVEY RESULTS (DPM/100 CM<sup>2</sup>)

SKETCH

Control No. \_\_\_\_\_

Radiological Operations  
Area or Equipment Drawing Showing Survey Points

Tent 9

# 19 Total Survey Points

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE		TOTAL ALPHA (including 150 count)	TOTAL BETA/GAMMA
		ALPHA	BETA/GAMMA		
1		218	2205	260	2455
2		218	2205	260	2455
3		218	2205	260	2455
4		218	2205	260	2455
5		218	2205	260	2455
6		218	2205	260	2455
7		218	2205	260	2455
8		218	2205	260	2455
9		218	2205	260	2455
10		218	2205	260	2455
11		218	2205	260	2455
12		218	2205	260	2455
13		218	2205	260	2455
14		218	2205	260	2455
15		218	2205	260	2455
16		218	2205	260	2455
17		218	2205	260	2455
18		218	2205	260	2455
19		218	2205	260	2455

24 1-16-58

# INFORMATION ONLY

## RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER: _____	
FOR: _____ PWRE _____ PRL _____	
_____ RWP _____ OTHER <u>Positive</u>	
BUILDING/LOCATION: <u>Tent 10</u>	ROOM: <u>Tent 10</u>
DATE: <u>1-22-98</u>	TIME: <u>0800</u>
ITEM DESCRIPTION: <u>Weekly Control Point Survey</u>	
COMMENTS: _____	
PERFORMED BY (PRINT NAME): <u>[Redacted]</u> DATE: <u>1-22-98</u>	
RCT SIGNATURE: <u>[Signature]</u>	

### REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR: _____	EBER. _____	EBER. _____	EBER. _____
MODEL: _____	S.A.C. - 4 _____	S.A.C. - 4 _____	S.A.C. - 4 _____
SERIAL #: _____	<u>1050</u>	<u>959</u>	
CAL DATE: _____	<u>9-16-97</u>	<u>9-12-97</u>	
CAL DUE DATE: _____	<u>3-16-98</u>	<u>3-12-98</u>	

MFR: _____	EBER. _____	EBER. _____	EBER. _____
MODEL: _____	B.C. 4 _____	B.C. 4 _____	B.C. 4 _____
SERIAL #: _____	<u>80770</u>	<u>80830</u>	
CAL DATE: _____	<u>1-7-98</u>	<u>1-6-98</u>	
CAL DUE DATE: _____	<u>7-7-98</u>	<u>7-6-98</u>	

### TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR: _____	N.E. TECH _____
MODEL: _____	ELECTRA _____
SERIAL #: _____	
CAL DATE: _____	
CAL DUE DATE: _____	
BACKGROUND: _____	
EFFICIENCY: _____	
MDA: _____	

REVIEWED BY: Thyphsher RO SUPERVISION PRINT NAME

[Signature] / 1/27/98 DATE

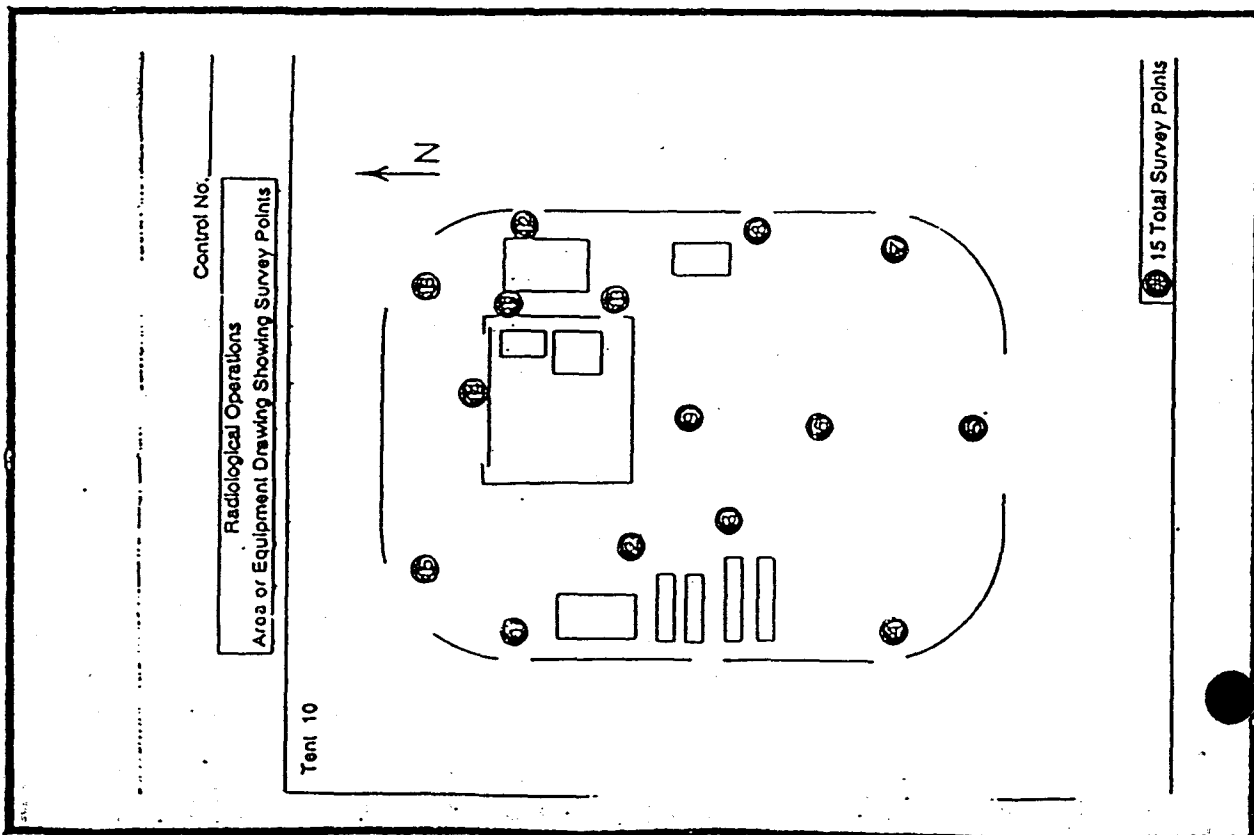
RO SUPERVISION SIGNATURE

MDA = CF X (2.71 + 4.65) ☒ BACKGROUND (CPM))

# RADIOLOGICAL CONTAMINATION SURVEY FORM

**SURVEY RESULTS (DPM/100 CM<sup>2</sup>)**

## SKETCH

[illegible]

# RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER:	
FOR: PWRE	PRL
RWP	OTHER Routine
BUILDING/LOCATION:	ROOM:
904 PAD	tent 10
DATE:	TIME:
1-29-98	1400
ITEM DESCRIPTION: weekly survey	
COMMENTS:	
PERFORMED BY (PRINT NAME): Hankins	
RCT SIGNATURE	DATE
	1-29-98

## REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	1050	959	
CAL DATE:	9-16-97	9-12-97	
CAL DUE DATE:	3-16-98	3-12-98	

MFR:	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	770	838	
CAL DATE:	1-7-98	1-6-98	
CAL DUE DATE:	7-7-98	7-6-98	

## TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH
MODEL:	ELECTRA
SERIAL #:	
CAL DATE:	
CAL DUE DATE:	
BACKGROUND:	
EFFICIENCY:	
MDA:	

REVIEWED BY: T. Upsher RO SUPERVISION PRINT NAME

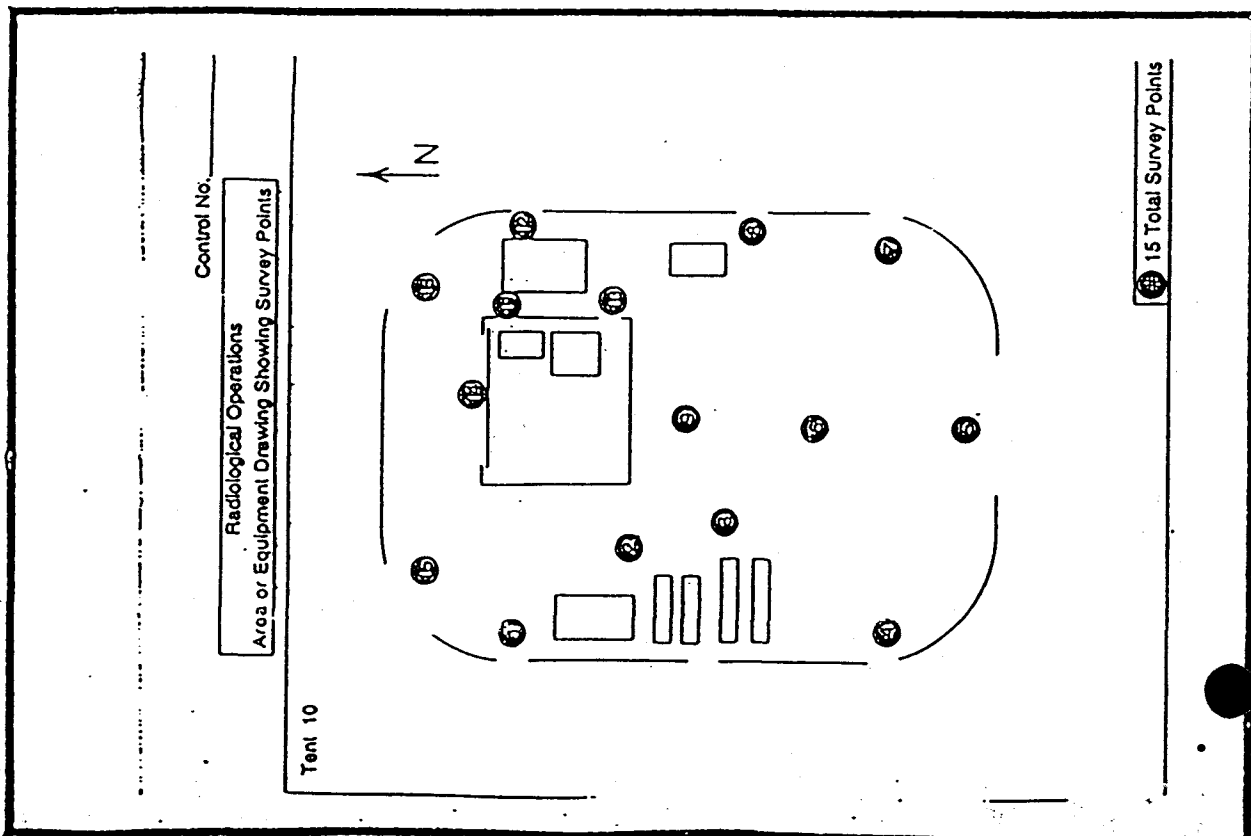
Chf 1/26/98 DATE

MDA = CF X [2.71 + 4.65] ☒ BACKGROUND (CPM)]



SURVEY RESULTS (DPM/100 CM<sup>2</sup>)

## SKETCH

[illegible]



# RADIOLOGICAL CONTAMINATION SURVEY FORM

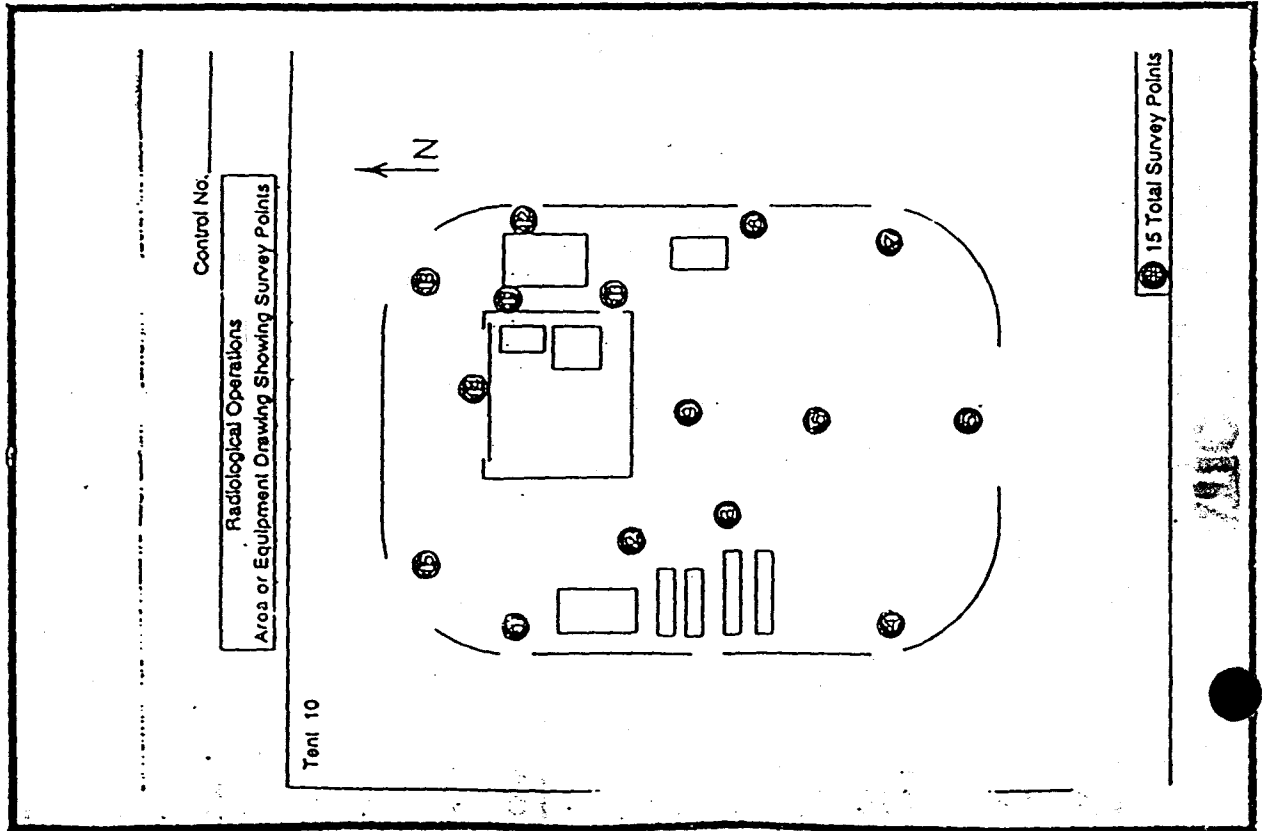
LOG NUMBER: \_\_\_\_\_

PAGE \_\_\_\_\_ OF \_\_\_\_\_

SURVEY RESULTS (DPM/100 CM<sup>2</sup>)

SWIPE	LOCATION/DESCRIPTION	REMOVABLE		TOTAL ALPHA REMOVABLE + REMAINING	TOTAL BETA REMOVABLE + REMAINING
		ALPHA	BETA/GAMMA		
1		420	4200		
2		420	4200		
3		420	4200		
4		420	4200		
5		420	4200		
6		420	4200		
7		420	4200		
8		420	4200		
9		420	4200		
10		420	4200		
11		420	4200		
12		420	4200		
13		420	4200		
14		420	4200		
15		420	4200		
JUL 2-5 98					

SKETCH



PAGE 1 OF 2

LOG NUMBER: _____	
FOR: _____ P/WRE _____ PRL _____	
_____ RWP _____ OTHER <u>Routine</u>	
BUILDING/LOCATION: <u>904 Pad</u>	ROOM: <u>Test 10</u>
DATE: <u>2-12-98</u>	TIME: <u>0830</u>
ITEM DESCRIPTION: <u>Weekly Control Point Survey</u>	
COMMENTS: _____	
PERFORMED BY (PRINT NAME): <u>Mr. [Redacted]</u> EMP# <u>12-12-98</u> DATE	
RCT SIGNATURE <u>[Signature]</u>	

REVIEWED BY:

PRO SUPERVISION PRINT NAME

RO SUPERVISION SIGNATURE \_\_\_\_\_ DATE 12/23/98

$$\text{MDA} = \text{CF} \times [2.71 + 4.65 \sqrt{\text{BACKGROUND (CPM)}}]$$

BACKGROUND (CPM)]

# REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	1050	959	
CAL DATE:	9-16-97	9-12-97	
CAL DUE DATE:	3-16-98	3-12-98	

MFR:	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	Bc270	Bc838	
CAL DATE:	1-7-98	1-6-98	
CAL DUE DATE:	7-7-98	7-6-98	

## TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MPR: N.E. TECH \_\_\_\_\_  
MODEL: ELECTRA \_\_\_\_\_  
SERIAL #: \_\_\_\_\_  
CAL DATE: \_\_\_\_\_  
CAL DUE DATE: \_\_\_\_\_  
BACKGROUND: \_\_\_\_\_  
EFFICIENCY: \_\_\_\_\_  
MDA: \_\_\_\_\_

LOG NUMBER:

PAGE 2 OF 2

# RADIOLOGICAL CONTAMINATION SURVEY FORM

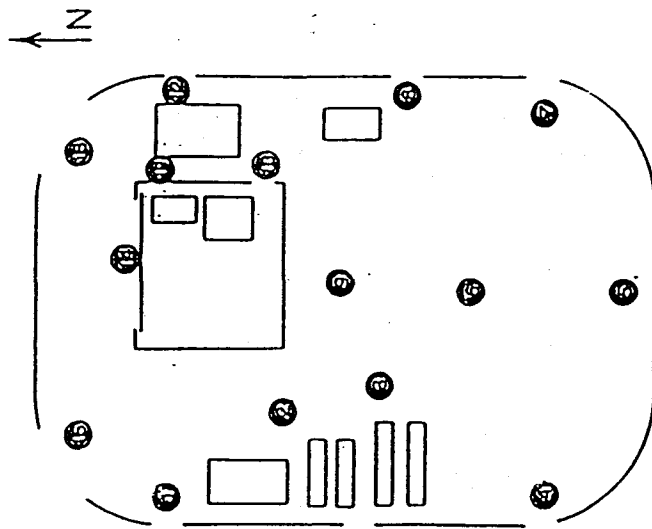
SURVEY RESULTS (DPM/100 CM<sup>2</sup>)

## SKETCH

Control No. \_\_\_\_\_

Radiological Operations	
Area	or Equipment Drawing Showing Survey Points

**Test 10**



**15 Total Survey Points**

[illegible]

11

# FORMATION ONLY

## RADIOLOGICAL CONTAMINATION SURVEY FORM

PAGE 1 OF 2

LOG NUMBER: _____	
FOR: _____ P/WRE _____ PRL _____	
RWP _____ OTHER <input checked="" type="checkbox"/> Routine	
BUILDING/LOCATION: <u>904 Pad</u>	ROOM: <u>Tent 10</u>
DATE: <u>2-18-98</u>	TIME: <u>1000</u>
ITEM DESCRIPTION: <u>Weekly Control Point Survey</u>	
COMMENTS: _____	
PERFORMED BY (PRINT NAME): <u>W. W. W. 2</u>	
RCT SIGNATURE: <u>[Signature]</u>	DATE: <u>2-18-98</u>

### REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR: \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_

MODEL: \_\_\_\_\_ S.A.C. - 4 \_\_\_\_\_ S.A.C. - 4 \_\_\_\_\_ S.A.C. - 4 \_\_\_\_\_

SERIAL #: \_\_\_\_\_ 1050 \_\_\_\_\_ 959 \_\_\_\_\_

CAL DATE: \_\_\_\_\_ 9-16-97 \_\_\_\_\_ 9-12-97 \_\_\_\_\_

CAL DUE DATE: \_\_\_\_\_ 3-16-98 \_\_\_\_\_ 3-12-98 \_\_\_\_\_

MFR: \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_

MODEL: \_\_\_\_\_ B.C. 4 \_\_\_\_\_ B.C. 4 \_\_\_\_\_ B.C. 4 \_\_\_\_\_

SERIAL #: \_\_\_\_\_ Bc 770 \_\_\_\_\_ Bc 838 \_\_\_\_\_

CAL DATE: \_\_\_\_\_ 1-7-98 \_\_\_\_\_ 1-6-98 \_\_\_\_\_

CAL DUE DATE: \_\_\_\_\_ 7-7-98 \_\_\_\_\_ 7-6-98 \_\_\_\_\_

### TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR: \_\_\_\_\_ N.E. TECH \_\_\_\_\_

MODEL: \_\_\_\_\_ ELECTRA \_\_\_\_\_

SERIAL #: \_\_\_\_\_

CAL DATE: \_\_\_\_\_

CAL DUE DATE: \_\_\_\_\_

BACKGROUND: \_\_\_\_\_

EFFICIENCY: \_\_\_\_\_

MDA: \_\_\_\_\_

REVIEWED BY: Thompson RO SUPERVISION PRINT NAME

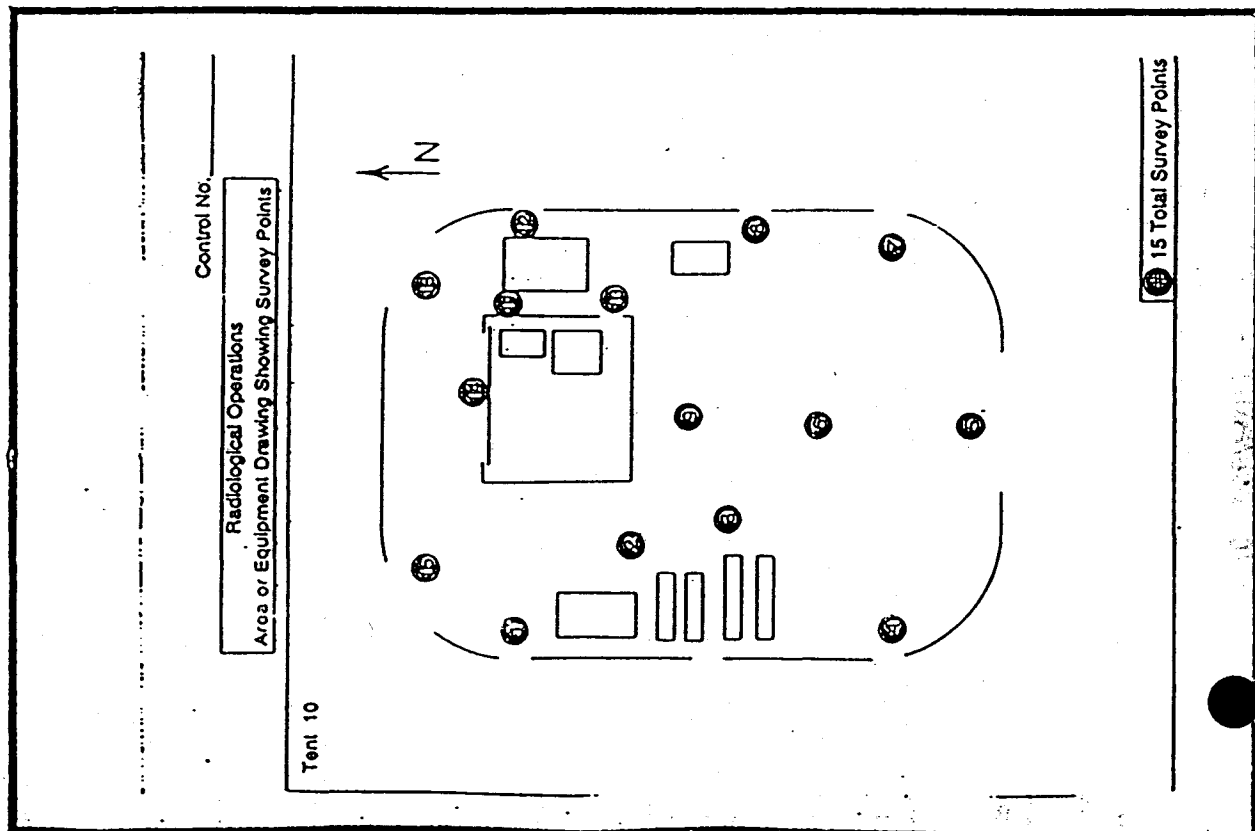
Chf / 2/23/98 DATE

MDA = CF X [2.71 + 4.65] ☒ BACKGROUND (CPM)]

# RADIOLOGICAL CONTAMINATION SURVEY FORM

**SURVEY RESULTS (DPM/100 CM<sup>2</sup>)**

41013XS

[illegible]

# INFORMATION ONLY

## RADIOLOGICAL CONTAMINATION SURVEY FORM

PAGE 1 OF 2

LOG NUMBER:	
FOR: PWRE PRL	OTHER Routine
BUILDING/LOCATION: 904 PAD	ROOM: Tent 10
DATE: 02-26-98	TIME: 10:20
ITEM DESCRIPTION: weekly	
COMMENTS:	
PERFORMED BY (PRINT NAME): L Hankins	
RCT SIGNATURE: [Signature]	DATE: 102-26-98

### REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR: EBER. EBER. EBER.  
 MODEL: S.A.C.-4 S.A.C.-4 S.A.C.-4  
 SERIAL #: 797 959  
 CAL DATE: 10-8-97 9-12-97  
 CAL DUE DATE: 4-8-98 3-12-98

MFR: EBER. EBER. EBER.  
 MODEL: B.C.4 B.C.4 B.C.4  
 SERIAL #: B.C.720 B.C.838  
 CAL DATE: 1-7-98 1-6-98  
 CAL DUE DATE: 7-7-98 7-6-98

### TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR: N.E. TECH  
 MODEL: ELECTRA  
 SERIAL #:  
 CAL DATE:  
 CAL DUE DATE:  
 BACKGROUND:  
 EFFICIENCY:  
 MDA:

REVIEWED BY: TH psher  
 RO SUPERVISION PRINT NAME  
 RO SUPERVISION SIGNATURE  
 DATE: 3/4/98  
 MDA = CF X (2.71 + 4.65) BACKGROUND (CPM)



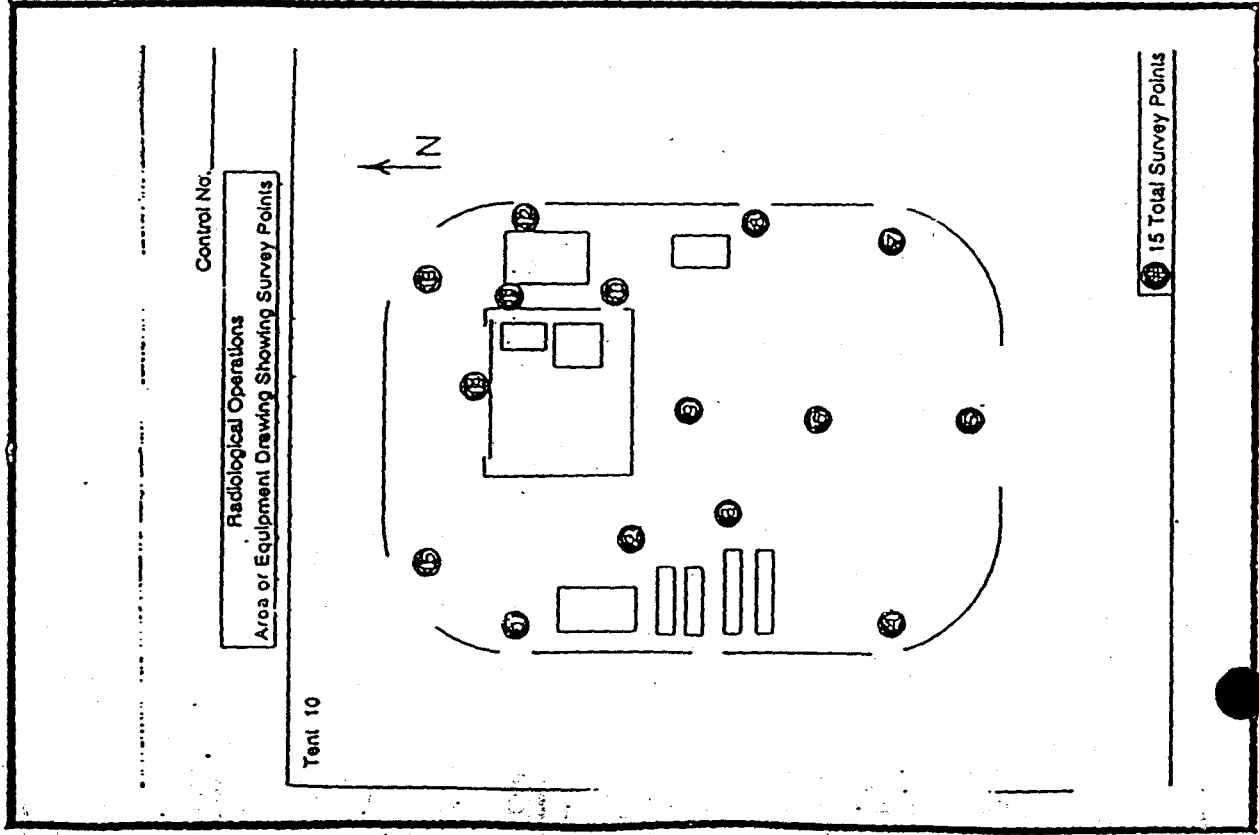
# RADIOLOGICAL CONTAMINATION SURVEY FORM

PAGE 2 OF 2

LOG NUMBER:

SURVEY RESULTS (DPM/100 CM<sup>2</sup>)

SKETCH



SWIPE	LOCATION/DESCRIPTION	REMOVABLE		TOTAL ALPHA PERCENTAGE 100 COUNT	TOTAL BETA/GAMMA
		ALPHA	BETA/GAMMA		
1		120	4200		
2		130	4200		
3		420	4200		
4		420	4200		
5		420	4200		
6		420	4200		
7		420	4200		
8		420	4200		
9		420	4200		
10		420	4200		
11		420	4200		
12		420	4200		
13		420	4200		
14		420	4200		
15		420	4200		
24 02-26-98					

# RADIOLOGICAL CONTAMINATION SURVEY FORM

PAGE 1 OF 2

LOG NUMBER: _____	
FOR: _____ PWRE _____ PRL _____	OTHER <u>Routine</u>
BUILDING/LOCATION: <u>904 Pad</u>	ROOM: <u>ten + 10</u>
DATE: <u>3-11-98</u>	TIME: <u>10:15</u>
ITEM DESCRIPTION: <u>weekly</u>	
COMMENTS: _____	
PERFORMED BY (PRINT NAME): <u>J. Hankins</u>	
RCT SIGNATURE: <u>[Signature]</u>	DATE: <u>3-10-98</u>

## REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR: \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_

MODEL: \_\_\_\_\_ S.A.C. - 4 \_\_\_\_\_ S.A.C. - 4 \_\_\_\_\_ S.A.C. - 4 \_\_\_\_\_

SERIAL #: 797 767 \_\_\_\_\_

CAL DATE: 10-8-97 10-10-97 \_\_\_\_\_

CAL DUE DATE: 4-8-98 4-10-98 \_\_\_\_\_

MFR: \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_

MODEL: \_\_\_\_\_ B.C. 4 \_\_\_\_\_ B.C. 4 \_\_\_\_\_ B.C. 4 \_\_\_\_\_

SERIAL #: BC 770 BC 838 \_\_\_\_\_

CAL DATE: 1-7-98 1-6-98 \_\_\_\_\_

CAL DUE DATE: 7-7-98 7-6-98 \_\_\_\_\_

## TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR: \_\_\_\_\_ N.E. TECH \_\_\_\_\_

MODEL: \_\_\_\_\_ ELECTRA \_\_\_\_\_

SERIAL #: \_\_\_\_\_

CAL DATE: \_\_\_\_\_

CAL DUE DATE: \_\_\_\_\_

BACKGROUND: \_\_\_\_\_

EFFICIENCY: \_\_\_\_\_

MDA: \_\_\_\_\_

REVIEWED BY: K. Garland

RO SUPERVISION PRINT NAME

[Signature] 3-11-98  
RO SUPERVISION SIGNATURE DATE

MDA = CF X (2.71 + 4.65) ☒ BACKGROUND (CPM))

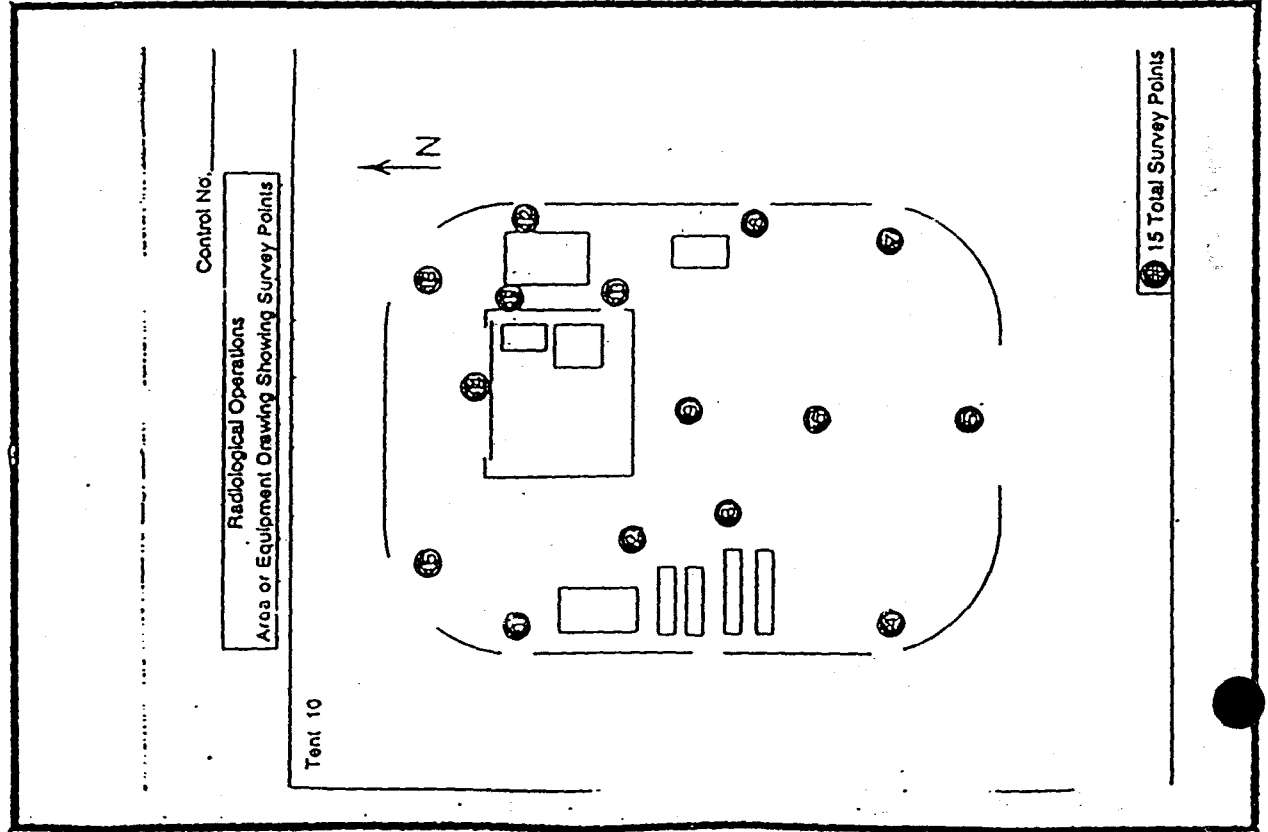
# RADIOLOGICAL CONTAMINATION SURVEY FORM

PAGE      OF     

LOG NUMBER:                     

SURVEY RESULTS (DPM/100 CM<sup>2</sup>)

SKETCH



SWIPE	LOCATION/DESCRIPTION	REMOVABLE		TOTAL ALPHA INSTRUMENT 100 CM <sup>2</sup>	TOTAL BETA INSTRUMENT 100 CM <sup>2</sup>
		ALPHA	BETA CASIMIR		
1		420	4200		
2		420	4200		
3		420	4200		
4		420	4200		
5		420	4200		
6		420	4200		
7		420	4200		
8		420	4200		
9		420	4200		
10		420	4200		
11		420	4200		
12		420	4200		
13		420	4200		
14		420	4200		
15		420	4200		
24 3-10-98					

# **INFORMATION ONLY** RADIOLOGICAL CONTAMINATION SURVEY FORM

PAGE 1 OF 2

LOG NUMBER: _____	
FOR: _____ P/WRE _____ PRL _____	
RWP _____ OTHER <u>Routine</u>	
BUILDING/LOCATION: <u>904 Pad</u>	ROOM: <u>Tent 10</u>
DATE: <u>3-17-98</u>	TIME: <u>0930</u>
ITEM DESCRIPTION: <u>Weekly Control Point Survey</u>	
COMMENTS: _____	
PERFORMED BY (PRINT NAME): <u>M. M. M.</u>	
RCT SIGNATURE	DATE: <u>3-17-98</u>

## REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	<u>797</u>	<u>767</u>	
CAL DATE:	<u>10-8-87</u>	<u>10-10-87</u>	
CAL DUE DATE:	<u>4-8-98</u>	<u>4-10-98</u>	
MFR:	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	<u>Bc2770</u>	<u>Bc838</u>	
CAL DATE:	<u>1-7-98</u>	<u>1-6-98</u>	
CAL DUE DATE:	<u>7-7-98</u>	<u>7-6-98</u>	

## TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH
MODEL:	ELECTRA
SERIAL #:	
CAL DATE:	
CAL DUE DATE:	
BACKGROUND:	
EFFICIENCY:	
MDA:	

REVIEWED BY: K. Garland RO SUPERVISION PRINT NAME

K. E. Garland 13/17/98 DATE

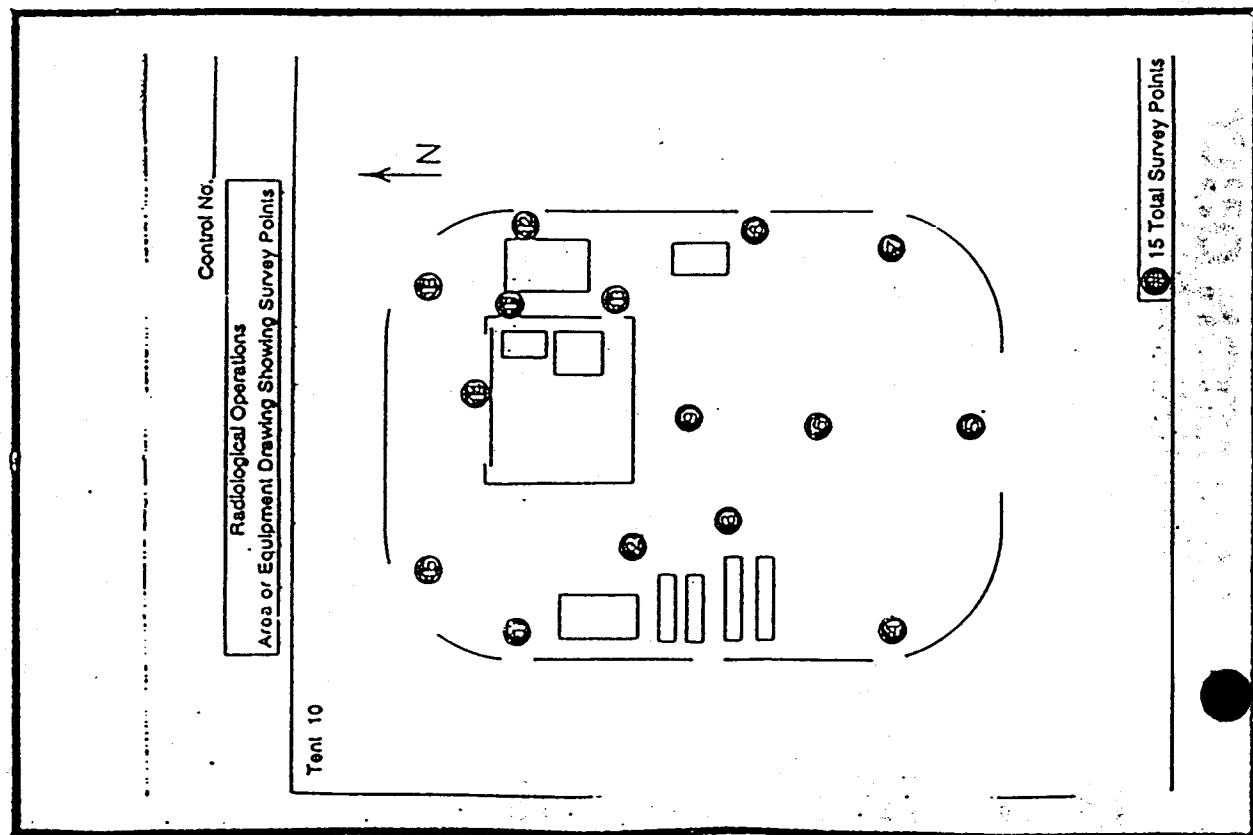
MDA = CF X (2.71 + 4.65) ☒ BACKGROUND (CPM)

23

# RADIOLOGICAL CONTAMINATION SURVEY FORM

### SURVEY RESULTS (DPM/100 CM<sup>2</sup>)

HKJ13KS



SWIPE	LOCATION/DESCRIPTION	REMOVABLE		TOTAL ALPHA BETA GAMMA	TOTAL BETA/ GAMMA
		ALPHA	BETA GAMMA		
1		120	1200		
2		120	1200		
3		120	1200		
4		120	1200		
5		120	1200		
6		120	1200		
7		120	1200		
8		120	1200		
9		120	1200		
10		120	1200		
11		120	1200		
12		120	1200		
13		120	1200		
14		120	1200		
15		120	1200		
<div style="text-align: center;">9-3-1298</div>					

PAGE 1 OF 2

# REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

## TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR: N.E. TECH \_\_\_\_\_  
 MODEL: ELECTRA \_\_\_\_\_  
 SERIAL #: \_\_\_\_\_  
 CAL DATE: \_\_\_\_\_  
 CAL DUE DATE: \_\_\_\_\_  
 BACKGROUND: \_\_\_\_\_  
 EFFICIENCY: \_\_\_\_\_  
 MDA: \_\_\_\_\_

$$\text{MDA} = \text{CF} \times [2.71 + 4.65 \sqrt{\text{BACKGROUND (CPM)}}]$$

REVIEWED BY: X. Gualand RO SUPERVISION PRINT NAME

K. E. Gualand RO SUPERVISION SIGNATURE

14-1-98 DATE

25

# RADIOLOGICAL CONTAMINATION SURVEY FORM

### SURVEY RESULTS (DPM/100 CM<sup>2</sup>)

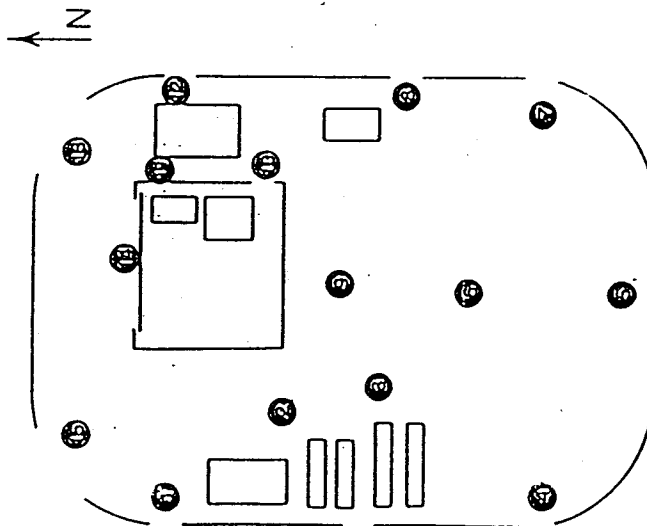
5X3101

Control No.:

### Radiological Operations

#### Area or Equipment Drawing Showing Survey Points

**Ten! 10**



**15 Total Survey Points**

[illegible]

# INFORMATION ONLY

## RADIOLOGICAL CONTAMINATION SURVEY FORM

PAGE 1 OF 2

LOG NUMBER:

FOR: P/WRE PRL

RWP OTHER Routine

BUILDING/LOCATION:

ROOM: Tent 10

DATE:

TIME: 1000

ITEM DESCRIPTION:

weekly

COMMENTS:

PERFORMED BY (PRINT NAME):

Hankins

RCT SIGNATURE

14-1-98  
DATE

REVIEWED BY:

K. Catalano

RO SUPERVISION PRINT NAME

RO SUPERVISION SIGNATURE

DATE

### REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:

EBER.

EBER.

EBER.

EBER.

MODEL:

S.A.C.-4

S.A.C.-4

S.A.C.-4

S.A.C.-4

SERIAL #:

797

767

CAL DATE:

10-8-97

10-10-97

CAL DUE DATE:

4-8-98

4-10-98

MFR:

EBER.

EBER.

EBER.

EBER.

MODEL:

B.C.4

B.C.4

B.C.4

B.C.4

SERIAL #:

130770

130838

CAL DATE:

1-7-98

1-6-98

CAL DUE DATE:

7-7-98

7-6-98

### TOTAL CONTAMINATION

#### SURVEY INSTRUMENT DATA

MFR:

N.E. TECH

MODEL:

ELECTRA

SERIAL #:

CAL DATE:

CAL DUE DATE:

BACKGROUND:

EFFICIENCY:

MDA:

MDA = CF X [2.71 + 4.65] ☒ BACKGROUND (CPM)]



# RADIOLOGICAL CONTAMINATION SURVEY FORM

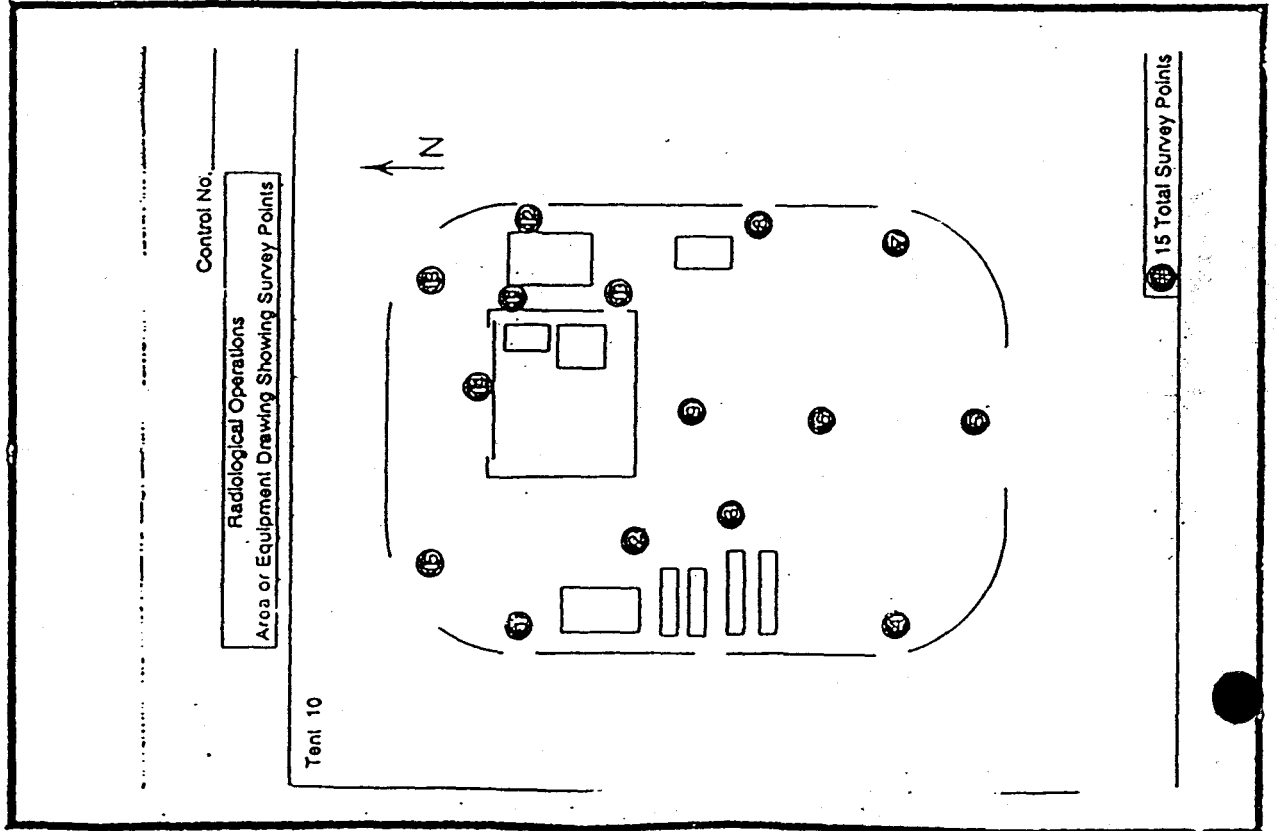
PAGE      OF     

LOG NUMBER:                     

SURVEY RESULTS (DPM/100 CM<sup>2</sup>)

SWIPE	LOCATION/DESCRIPTION	REMOVABLE		TOTAL ALPHA PARTICLES PER COUNT	TOTAL BETA/GAMMA
		ALPHA	BETA/GAMMA		
1		220	2200		
2		220	2200		
3		220	2200		
4		220	2200		
5		220	2200		
6		220	2200		
7		220	2200		
8		220	2200		
9		220	2200		
10		220	2200		
11		220	2200		
12		220	2200		
13		220	2200		
14		220	2200		
15		220	2200		
<div style="text-align: center;"> <p>421-98</p> <p>421-98</p> </div>					

SKETCH



# INFORMATIONAL CONTAMINATION SURVEY FORM

LOG NUMBER:	
FOR: P/WRE <u>✓</u> PRL	OTHER <u>ROUTINE</u>
BUILDING/LOCATION: <u>904 PAD</u>	ROOM: <u>tent 10</u>
DATE: <u>4-9-98</u>	TIME: <u>12:30</u>
ITEM DESCRIPTION: <u>weekly</u>	
COMMENTS:	
PERFORMED BY (PRINT NAME): <u>Harkins</u>	
RCT SIGNATURE <u>Harkins</u>	DATE <u>4-9-98</u>

## REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR: \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_  
 MODEL: \_\_\_\_\_ S.A.C. - 4 \_\_\_\_\_ S.A.C. - 4 \_\_\_\_\_ S.A.C. - 4 \_\_\_\_\_  
 SERIAL #: 824 767 \_\_\_\_\_  
 CAL DATE: 3-24-98 10-10-97 \_\_\_\_\_  
 CAL DUE DATE: 9-24-98 4-10-98 \_\_\_\_\_

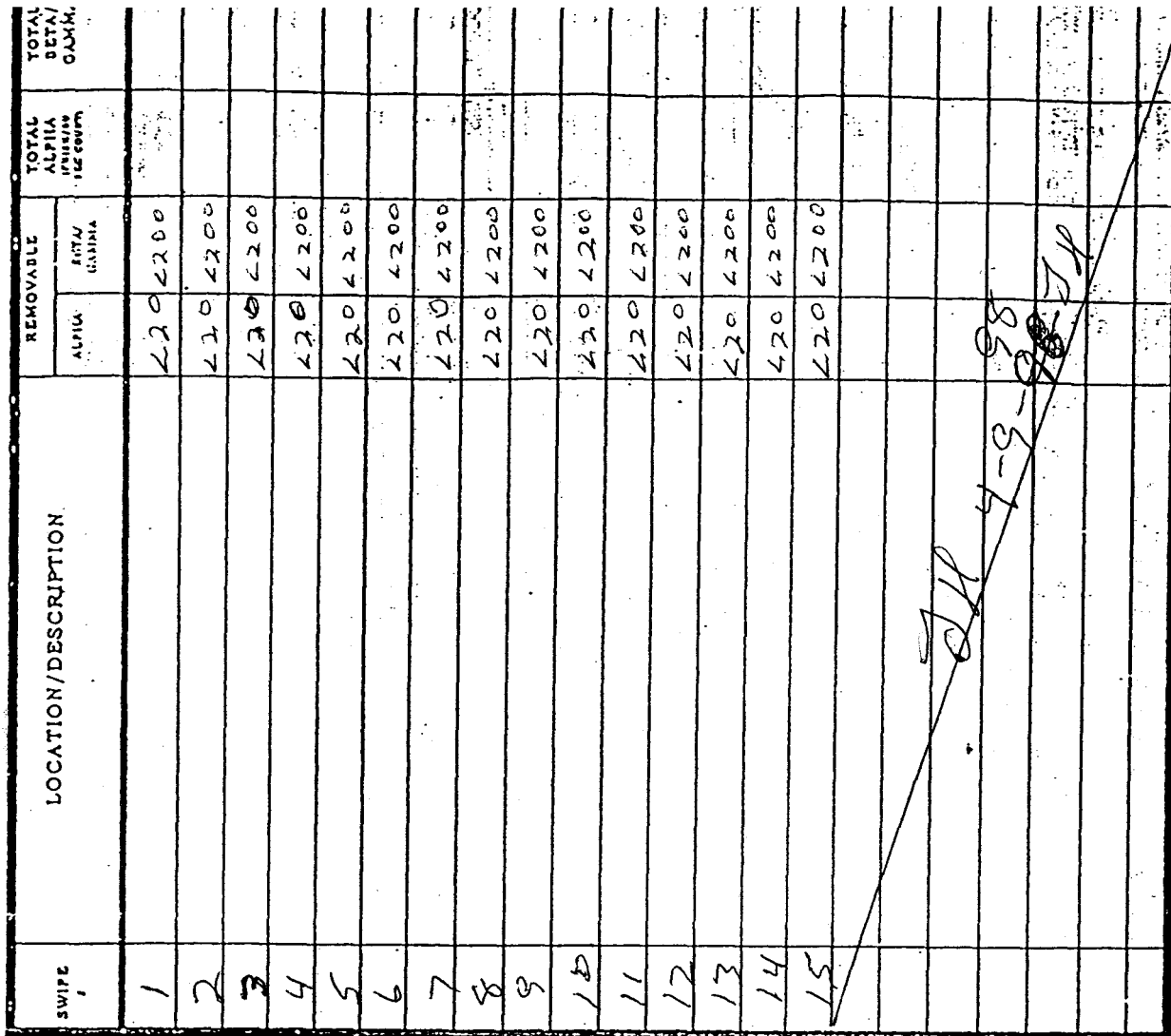
MFR: \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_  
 MODEL: \_\_\_\_\_ B.C. 4 \_\_\_\_\_ B.C. 4 \_\_\_\_\_ B.C. 4 \_\_\_\_\_  
 SERIAL #: BC 770 BC 888 811 \_\_\_\_\_  
 CAL DATE: 1-2-98 1-6-98 \_\_\_\_\_  
 CAL DUE DATE: 7-7-98 7-6-98 \_\_\_\_\_

## TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR: \_\_\_\_\_ N.E. TECH \_\_\_\_\_  
 MODEL: \_\_\_\_\_ ELECTRA \_\_\_\_\_  
 SERIAL #: \_\_\_\_\_  
 CAL DATE: \_\_\_\_\_  
 CAL DUE DATE: \_\_\_\_\_  
 BACKGROUND: \_\_\_\_\_  
 EFFICIENCY: \_\_\_\_\_  
 MDA: \_\_\_\_\_

REVIEWED BY: K. Galeland RO SUPERVISION PRINT NAME  
Harkins DATE 4-9-98  
Harkins DATE 4-9-98

MDA = CF X [2.71 + 4.65] ☒ BACKGROUND (CPM)



# **INFORMATION ONLY** **RADIOLOGICAL CONTAMINATION SURVEY FORM**

PAGE 1 OF 2

LOG NUMBER:	
FOR: _____ P/WRE _____ PRL _____	
_____ RWP <input checked="" type="checkbox"/> OTHER <u>Routine</u>	
BUILDING/LOCATION: <u>904 PAD</u>	ROOM: <u>tent 10</u>
DATE: <u>4-15-88</u>	TIME: <u>10:15</u>
ITEM DESCRIPTION: <u>weekly survey</u>	
COMMENTS:	
PERFORMED BY (PRINT NAME): <u>Hankins</u>	
<u>Hankins</u>	<u>4-15-88</u>
RCT SIGNATURE	DATE

## REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR: \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_  
 MODEL: \_\_\_\_\_ S.A.C. - 4 \_\_\_\_\_ S.A.C. - 4 \_\_\_\_\_ S.A.C. - 4 \_\_\_\_\_  
 SERIAL #: 795 824  
 CAL DATE: 3-13-88 3-24-88  
 CAL DUE DATE: 9-13-88 9-24-88

MFR: \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_  
 MODEL: \_\_\_\_\_ B.C. 4 \_\_\_\_\_ B.C. 4 \_\_\_\_\_ B.C. 4 \_\_\_\_\_  
 SERIAL #: BC 770 BC 838  
 CAL DATE: 1-7-88 1-6-88  
 CAL DUE DATE: 7-7-88 7-6-88

## TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR: \_\_\_\_\_ N.E. TECH \_\_\_\_\_  
 MODEL: \_\_\_\_\_ ELECTRA \_\_\_\_\_  
 SERIAL #: \_\_\_\_\_  
 CAL DATE: \_\_\_\_\_  
 CAL DUE DATE: \_\_\_\_\_  
 BACKGROUND: \_\_\_\_\_  
 EFFICIENCY: \_\_\_\_\_  
 MDA: \_\_\_\_\_

REVIEWED BY: K. C. [Signature] RO SUPERVISION PRINT NAME  
K. [Signature] RO SUPERVISION SIGNATURE  
4/15/88 DATE

$$MDA = CF \times [2.71 + 4.65 \sqrt{\text{BACKGROUND (CPM)}}]$$

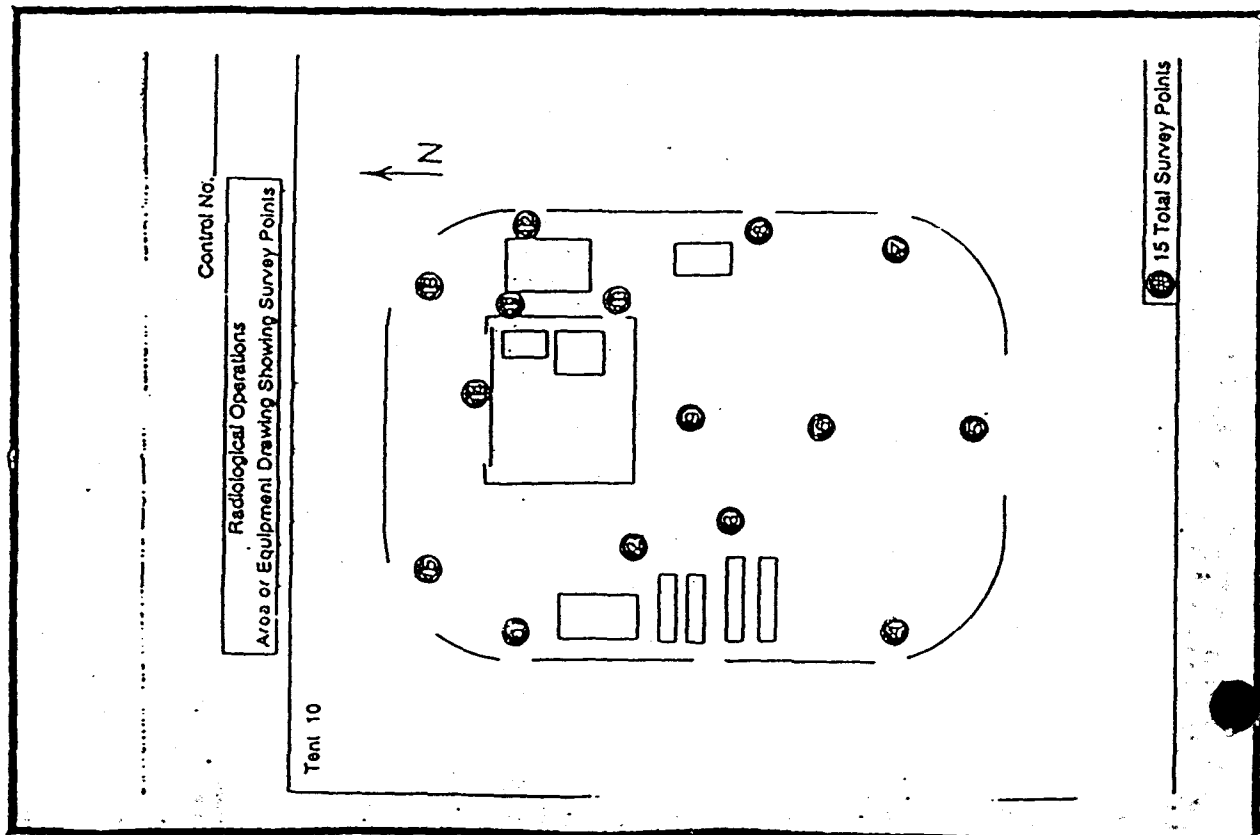
LOG NUMBER:

PAGE 30

# RADIOLOGICAL CONTAMINATION SURVEY FORM

**SURVEY RESULTS (DPM/100 CM<sup>2</sup>)**

HC13XS

[illegible]

34

# INFORMATION ONLY RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER: _____	
FOR: _____ P/WRE _____ PRL _____	_____ OTHER <u>Routine</u>
BUILDING/LOCATION: <u>904 Pad</u>	ROOM: <u>Tent 10</u>
DATE: <u>4-23-98</u>	TIME: <u>0800</u>
ITEM DESCRIPTION: <u>Weekly Control Point Survey</u>	
COMMENTS: _____	
PERFORMED BY (PRINT NAME): <u>W. H. 07</u>	
RCT SIGNATURE: <u>[Signature]</u>	DATE: <u>4-23-98</u>

## REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR: _____	EBER. _____	EBER. _____	EBER. _____
MODEL: _____	S.A.C. - 4 _____	S.A.C. - 4 _____	S.A.C. - 4 _____
SERIAL #: _____	<u>795</u>	<u>824</u>	
CAL DATE: _____	<u>3-13-98</u>	<u>3-24-98</u>	
CAL DUE DATE: _____	<u>9-13-98</u>	<u>9-24-98</u>	

MFR: _____	EBER. _____	EBER. _____	EBER. _____
MODEL: _____	B.C. 4 _____	B.C. 4 _____	B.C. 4 _____
SERIAL #: _____	<u>Bc 770</u>	<u>Bc 838</u>	
CAL DATE: _____	<u>1-7-98</u>	<u>1-6-98</u>	
CAL DUE DATE: _____	<u>7-7-98</u>	<u>7-6-98</u>	

## TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR: _____	N.E. TECH _____
MODEL: _____	ELECTRA _____
SERIAL #: _____	
CAL DATE: _____	
CAL DUE DATE: _____	
BACKGROUND: _____	
EFFICIENCY: _____	
MDA: _____	

REVIEWED BY: K. C. Calabrese RO SUPERVISION PRINT NAME

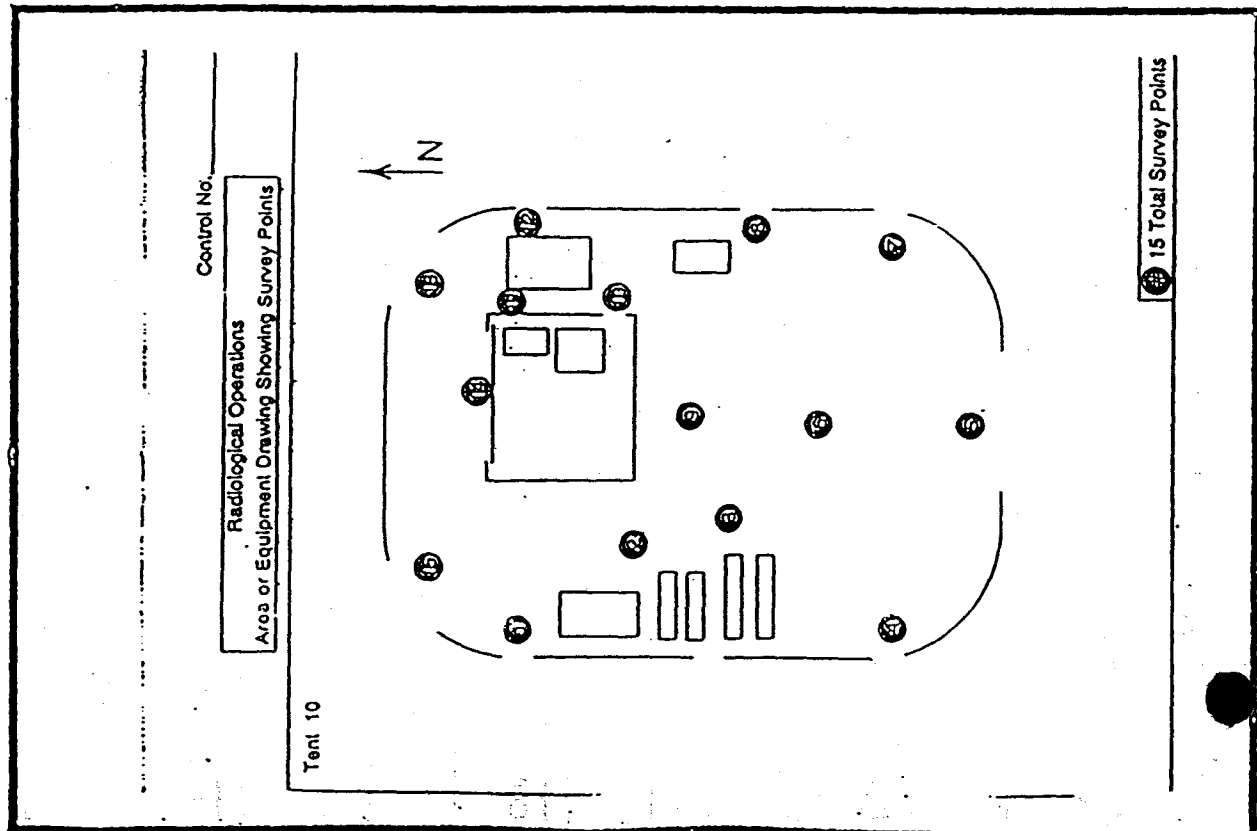
K. E. G. [Signature] / 5-20-98 DATE

MDA = CF X [2.71 + 4.65] ☒ BACKGROUND (CPM)]

## RADIOLOGICAL CONTAMINATION SURVEY FORM

### SURVEY RESULTS (DPM/100 CM<sup>2</sup>)

HC1 JK5

[illegible]

# INFORMATION ONLY

## RADIOLOGICAL CONTAMINATION SURVEY FORM

PAGE 1 OF 2

LOG NUMBER: _____	
FOR: PWRE _____ PRL _____	OTHER <u>Routine</u>
BUILDING/LOCATION: <u>904 Ind</u>	ROOM: <u>Tent 10</u>
DATE: <u>4-28-98</u>	TIME: <u>1000</u>
ITEM DESCRIPTION: <u>Weekly Control Point Survey</u>	
COMMENTS: _____	
PERFORMED BY (PRINT NAME): <u>W. W. Woz</u>	
RCT SIGNATURE: <u>[Signature]</u>	DATE: <u>4-28-98</u>

REVIEWED BY: H. Garland RO SUPERVISION PRINT NAME

K. E. Garland 15/9/98 DATE

### REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR: \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_

MODEL: \_\_\_\_\_ S.A.C. - 4 \_\_\_\_\_ S.A.C. - 4 \_\_\_\_\_ S.A.C. - 4 \_\_\_\_\_

SERIAL #: 795 824 \_\_\_\_\_

CAL DATE: 3-13-98 3-24-98 \_\_\_\_\_

CAL DUE DATE: 9-13-98 9-24-98 \_\_\_\_\_

MFR: \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_

MODEL: \_\_\_\_\_ B.C. 4 \_\_\_\_\_ B.C. 4 \_\_\_\_\_ B.C. 4 \_\_\_\_\_

SERIAL #: Bc 770 Bc 838 \_\_\_\_\_

CAL DATE: 1-7-98 1-6-98 \_\_\_\_\_

CAL DUE DATE: 7-7-98 7-6-98 \_\_\_\_\_

### TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR: \_\_\_\_\_ N.E. TECH \_\_\_\_\_

MODEL: \_\_\_\_\_ ELECTRA \_\_\_\_\_

SERIAL #: \_\_\_\_\_

CAL DATE: \_\_\_\_\_

CAL DUE DATE: \_\_\_\_\_

BACKGROUND: \_\_\_\_\_

EFFICIENCY: \_\_\_\_\_

MDA: \_\_\_\_\_

MDA = CF X [2.71 + 4.65] ☒ BACKGROUND (CPM)



PAGE 2 OF 2

SURVEY RESULTS (DPM/100 CM<sup>2</sup>)

SECTION

Control No. \_\_\_\_\_

Tent 10

Radological Operations  
Area or Equipment Drawing Showing Survey Points

15 Total Survey Points

[illegible]

# **INFORMATION ONLY** **RADIOLOGICAL CONTAMINATION SURVEY FORM**

PAGE 1 OF 2

LOG NUMBER: _____	
FOR: _____ P/WRE _____ PRL _____	
_____ RWP <input checked="" type="checkbox"/> OTHER <u>Routine</u>	
BUILDING/LOCATION: <u>904 Pad</u>	ROOM: <u>Tent 10</u>
DATE: <u>5-7-98</u>	TIME: <u>1230</u>
ITEM DESCRIPTION: <u>Weekly Control Point Survey</u>	
COMMENTS: _____	
PERFORMED BY (PRINT NAME): <u>M. H. H. 2</u>	
<u>[Signature]</u> RCT SIGNATURE	<u>5/7/98</u> DATE

## **REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA**

MFR: _____	EBER. _____	EBER. _____	EBER. _____
MODEL: _____	S.A.C. - 4 _____	S.A.C. - 4 _____	S.A.C. - 4 _____
SERIAL #: _____	<u>795</u>	<u>824</u>	<u>824</u>
CAL DATE: _____	<u>3-13-98</u>	<u>3-24-98</u>	<u>3-24-98</u>
CAL DUE DATE: _____	<u>5-13-98</u>	<u>9-24-98</u>	<u>9-24-98</u>

MFR: _____	EBER. _____	EBER. _____	EBER. _____
MODEL: _____	B.C. 4 _____	B.C. 4 _____	B.C. 4 _____
SERIAL #: _____	<u>Bc770</u>	<u>Bc838</u>	<u>Bc838</u>
CAL DATE: _____	<u>1-7-98</u>	<u>1-6-98</u>	<u>1-6-98</u>
CAL DUE DATE: _____	<u>7-7-98</u>	<u>7-6-98</u>	<u>7-6-98</u>

## **TOTAL CONTAMINATION SURVEY INSTRUMENT DATA**

MFR: _____	N.E. TECH _____
MODEL: _____	ELECTRA _____
SERIAL #: _____	_____
CAL DATE: _____	_____
CAL DUE DATE: _____	_____
BACKGROUND: _____	_____
EFFICIENCY: _____	_____
MDA: _____	_____

MDA = CF X [2.71 + 4.65] ☒ BACKGROUND (CPM)

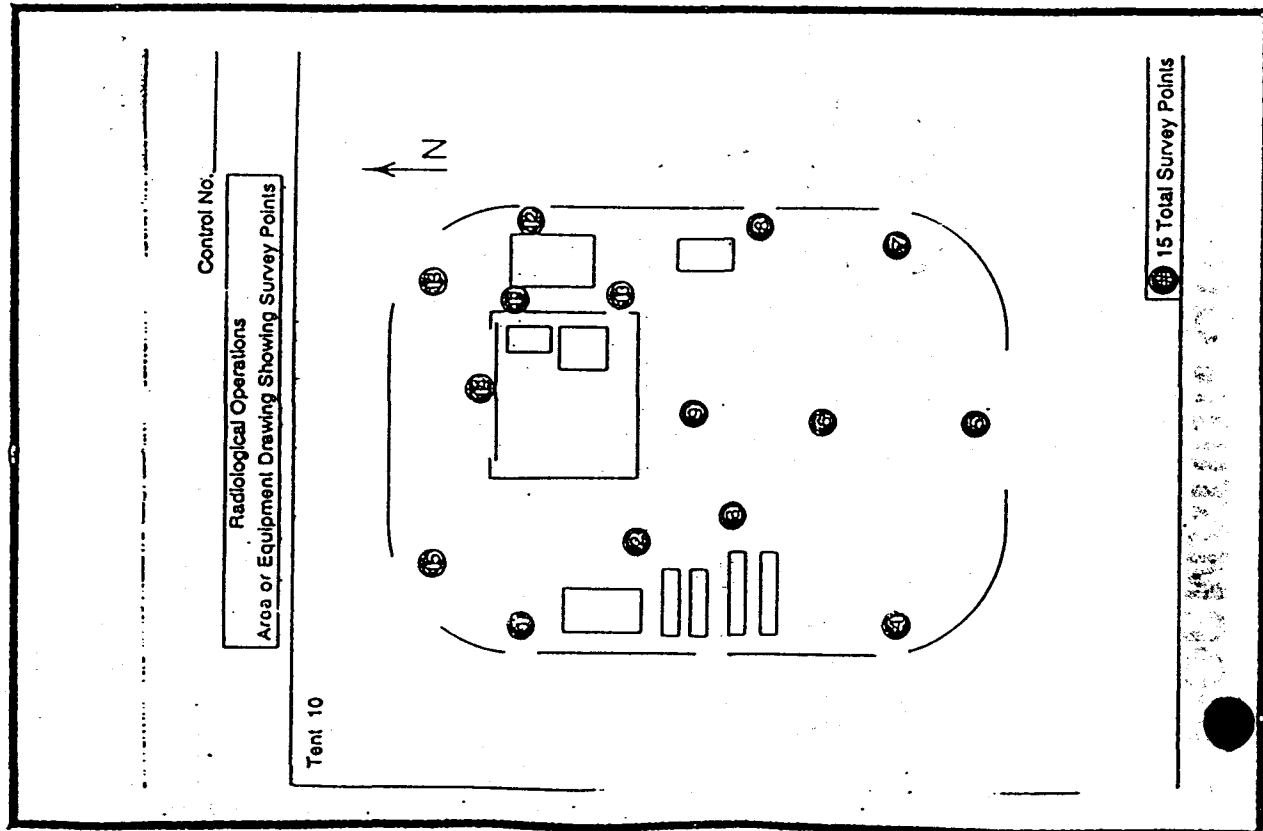
REVIEWED BY: K. C. Campbell  
 RO SUPERVISION PRINT NAME

K. E. G. 15/20/98  
 RO SUPERVISION SIGNATURE DATE

# RADIOLOGICAL CONTAMINATION SURVEY FORM

### SURVEY RESULTS (DPM/100 CM<sup>2</sup>)

## SKETCH

[illegible]

# INFORMATION ONLY ECOLOGICAL CONTAMINATION SURVEY FORM

PAGE 1 OF 2

LOG NUMBER:

FOR: P/WRE PRL

RWP OTHER Reutire

BUILDING/LOCATION:

904 Rod

ROOM:

T ENT #10

DATE:

5-13-98

TIME:

0900

ITEM DESCRIPTION:

Weekly Control Point Survey

COMMENTS:

PERFORMED BY (PRINT NAME):

M.E. VAUGHN

RCT SIGNATURE

DATE

REVIEWED BY:

J. Stewart-Bell

RO SUPERVISION PRINT NAME

J. Stewart-Bell

RO SUPERVISION SIGNATURE

DATE

16.10.98

## REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR: EBER. EBER. EBER. EBER.

MODEL: S.A.C.-4 S.A.C.-4 S.A.C.-4 S.A.C.-4

SERIAL #: 799 824 824 824

CAL DATE: 3-24-98 3-24-98 3-24-98 3-24-98

CAL DUE DATE: 9-13-98 9-13-98 9-13-98 9-13-98

MFR: EBER. EBER. EBER. EBER.

MODEL: B.C.4 B.C.4 B.C.4 B.C.4

SERIAL #: 720 838 838 838

CAL DATE: 1-7-98 1-6-98 1-6-98 1-6-98

CAL DUE DATE: 7-7-98 7-6-98 7-6-98 7-6-98

## TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR: N.E. TECH N.E. TECH N.E. TECH N.E. TECH

MODEL: ELECTRA ELECTRA ELECTRA ELECTRA

SERIAL #: SERIAL #: SERIAL #: SERIAL #:

CAL DATE: CAL DATE: CAL DATE: CAL DATE:

CAL DUE DATE: CAL DUE DATE: CAL DUE DATE: CAL DUE DATE:

BACKGROUND: BACKGROUND: BACKGROUND: BACKGROUND:

EFFICIENCY: EFFICIENCY: EFFICIENCY: EFFICIENCY:

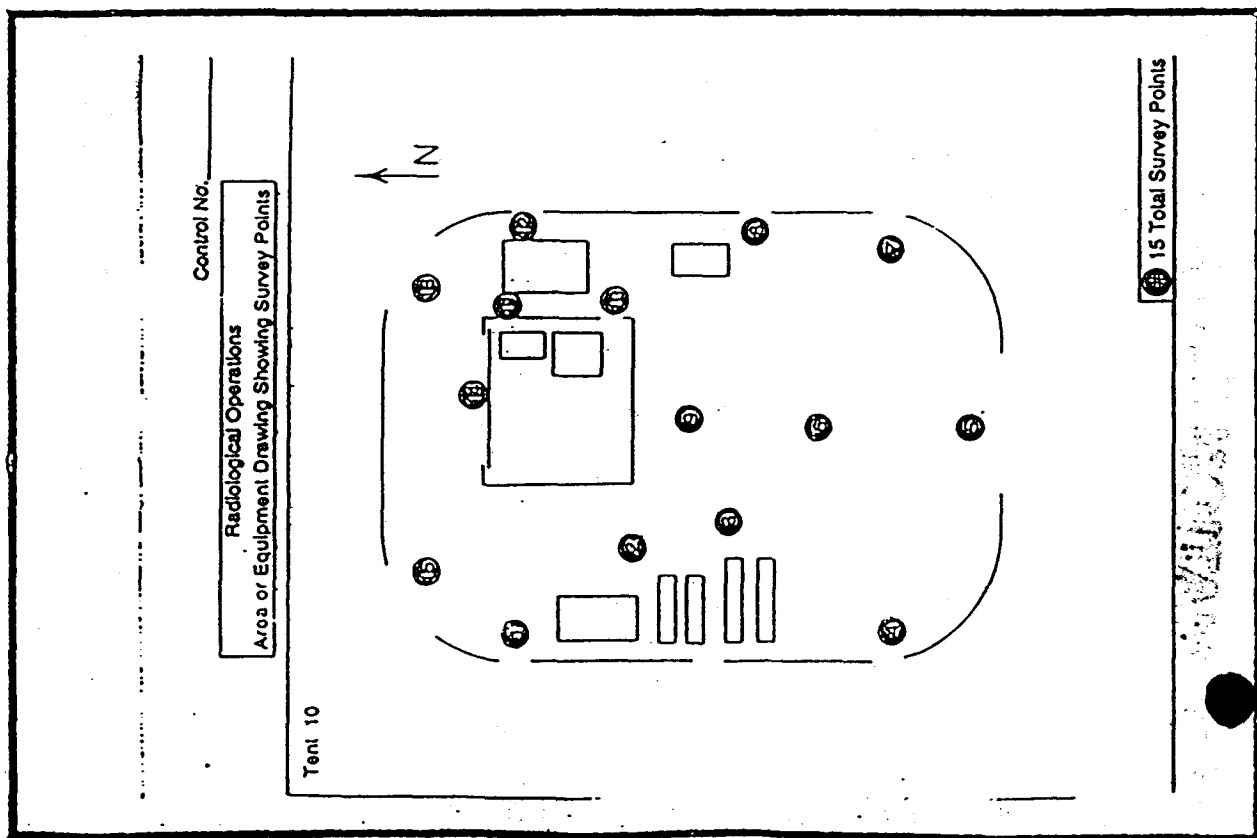
MDA: MDA: MDA: MDA:

MDA = CF X [2.71 + 4.65] BACKGROUND (CPM)

# RADIOLOGICAL CONTAMINATION SURVEY FORM

**SURVEY RESULTS (DPM/100 CM<sup>2</sup>)**

41313XS

[illegible]

# INFORMATION ONLY CONTAMINATION SURVEY FORM

LOG NUMBER: _____	
FOR: _____ PWRE _____ PRL _____	
RWP <input checked="" type="checkbox"/> OTHER <input type="checkbox"/> Routine	
BUILDING/LOCATION: 904 Pad	ROOM: Tent 10
DATE: 5-21-98	TIME: 0800
ITEM DESCRIPTION: Weekly Control Point Survey	
COMMENTS:	
PERFORMED BY (PRINT NAME): Hawkins	
RCT SIGNATURE: [Signature]	DATE: 5-22-98

## REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	795	824	
CAL DATE:	3-13-98	3-24-98	
CAL DUE DATE:	9-13-98	9-24-98	

MFR:	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	Bc 770	Bc 838	
CAL DATE:	1-7-98	1-6-98	
CAL DUE DATE:	7-7-98	7-6-98	

## TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH
MODEL:	ELECTRA
SERIAL #:	
CAL DATE:	
CAL DUE DATE:	
BACKGROUND:	
EFFICIENCY:	
MDA:	

REVIEWED BY: T. Stewart-Bell

RO SUPERVISION PRINT NAME

[Signature] 16.10.98

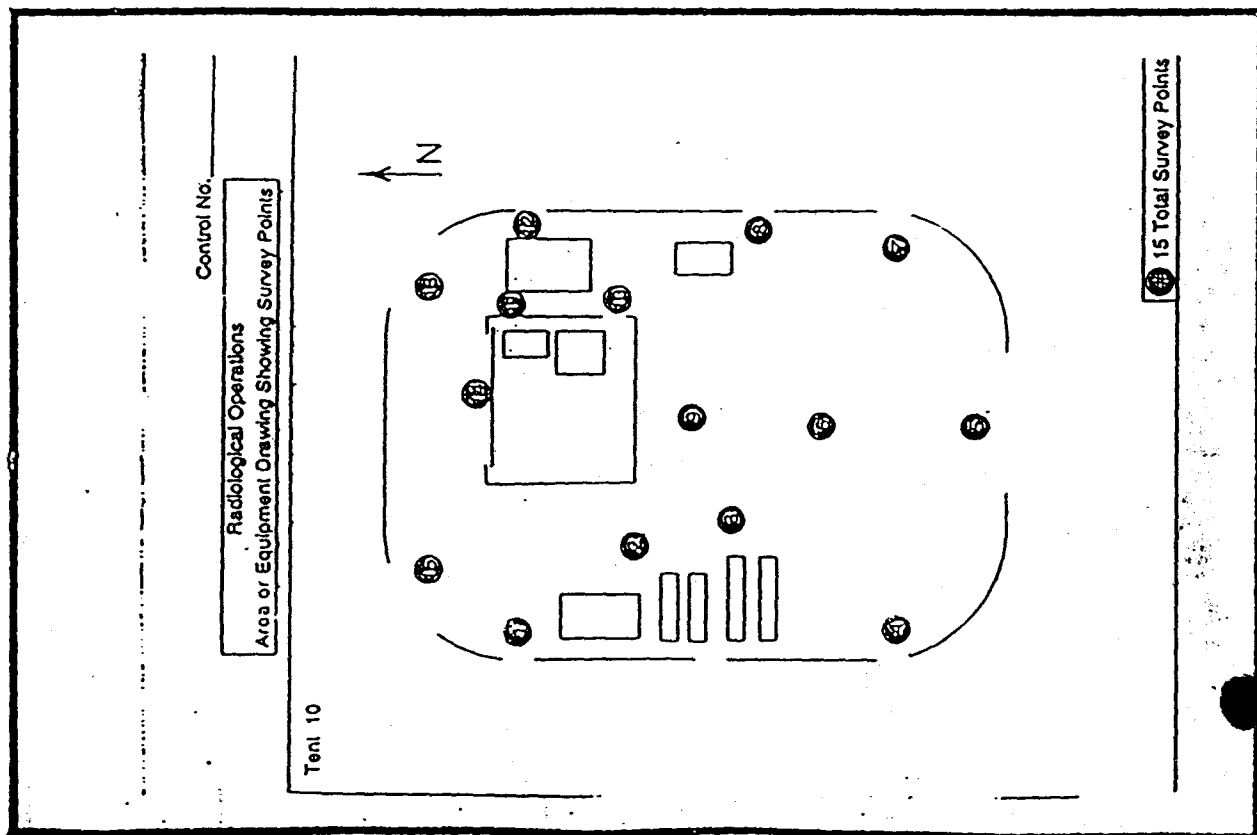
DATE

MDA = CF X [2.71 + 4.65] ☒ BACKGROUND (CPM)]

# RADIOLOGICAL CONTAMINATION SURVEY FORM

### SURVEY RESULTS (DPM/100 CM<sup>2</sup>)

5KCTCH

[illegible]

# INFORMATION ONLY

## RADIOLOGICAL CONTAMINATION SURVEY FORM

PAGE 1 OF 2

LOG NUMBER: _____	
FOR: _____ P/WRE _____ PRL _____	
RWP <input checked="" type="checkbox"/> OTHER _____	
BUILDING/LOCATION: <u>904 Pad</u>	ROOM: <u>Tent 10</u>
DATE: <u>5-27-98</u>	TIME: <u>0830</u>
ITEM DESCRIPTION: <u>Weekly Control Point Survey</u>	
COMMENTS: _____	
PERFORMED BY (PRINT NAME): <u>W. J. Stewart</u>	
RCT SIGNATURE: <u>[Signature]</u>	EMP# <u>1</u> DATE <u>5-27-98</u>

### REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	<u>795</u>	<u>824</u>	
CAL DATE:	<u>3-13-98</u>	<u>3-24-98</u>	
CAL DUE DATE:	<u>9-13-98</u>	<u>9-24-98</u>	

MFR:	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	<u>Bc 770</u>	<u>Bc 838</u>	
CAL DATE:	<u>1-7-98</u>	<u>1-6-98</u>	
CAL DUE DATE:	<u>7-7-98</u>	<u>7-6-98</u>	

### TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH		
MODEL:	ELECTRA		
SERIAL #:			
CAL DATE:			
CAL DUE DATE:			
BACKGROUND:			
EFFICIENCY:			
MDA:			

REVIEWED BY: J. Stewart RO SUPERVISION PRINT NAME

[Signature] RO SUPERVISION SIGNATURE

DATE 16-10-98

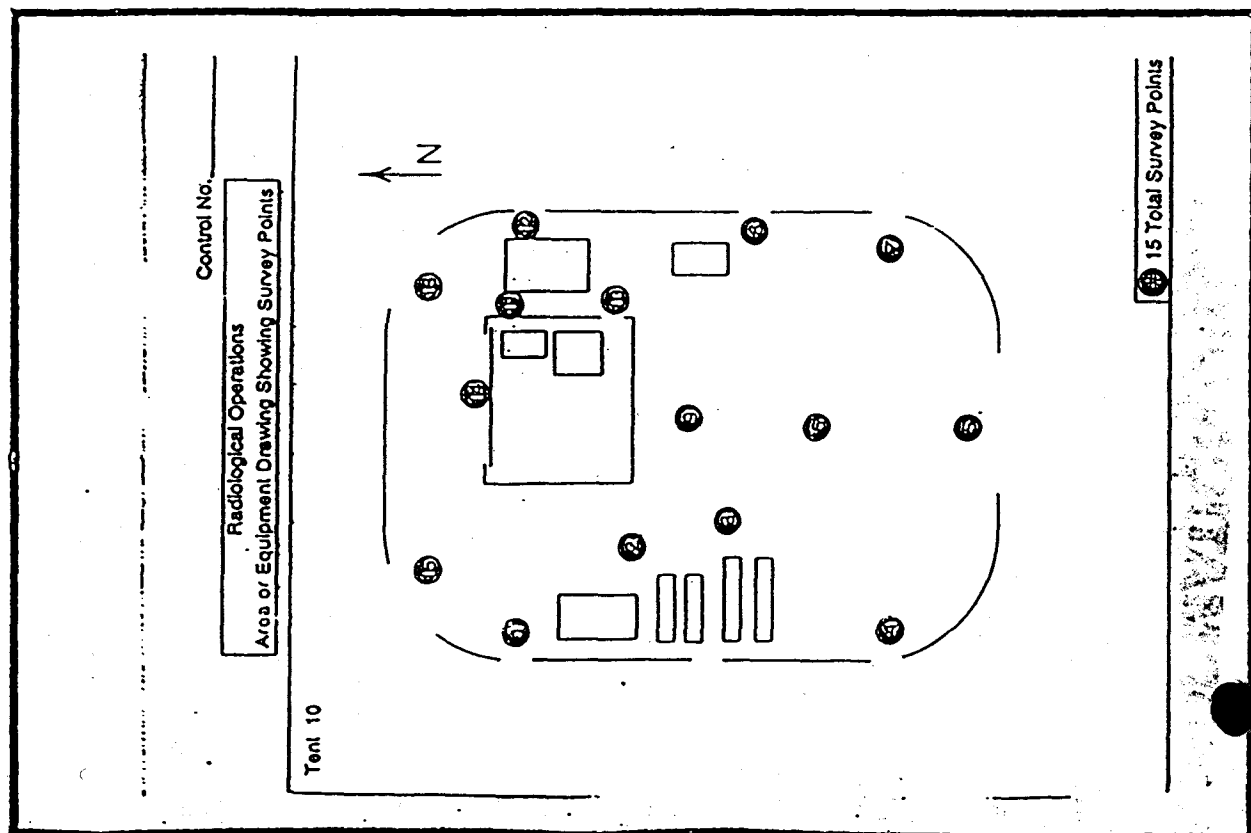
MDA = CF X (2.71 + 4.65) ☒ BACKGROUND (CPM)



# RADIOLOGICAL CONTAMINATION SURVEY FORM

**SURVEY RESULTS (DPM/100 CM<sup>2</sup>)**

50135

[illegible]

# INFORMATIONAL CONTAMINATION SURVEY FORM

PAGE 1 OF 2

LOG NUMBER: _____	
FOR: _____ P/WRE _____ PRL _____	
_____ RWP _____ OTHER <u>Residue</u>	
BUILDING/LOCATION: <u>904 Pad</u>	ROOM: <u>Tent 10</u>
DATE: <u>6-3-98</u>	TIME: <u>0830</u>
ITEM DESCRIPTION: <u>Weekly Control Point Survey</u>	
COMMENTS: _____	
PERFORMED BY (PRINT NAME): <u>[Signature]</u>	
RCT SIGNATURE	DATE: <u>6-3-98</u>

## REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR: \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_  
 MODEL: \_\_\_\_\_ S.A.C. - 4 \_\_\_\_\_ S.A.C. - 4 \_\_\_\_\_ S.A.C. - 4 \_\_\_\_\_  
 SERIAL #: 795 824 \_\_\_\_\_  
 CAL DATE: 3-13-98 3-24-98 \_\_\_\_\_  
 CAL DUE DATE: 9-13-98 9-24-98 \_\_\_\_\_

MFR: \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_  
 MODEL: \_\_\_\_\_ B.C. 4 \_\_\_\_\_ B.C. 4 \_\_\_\_\_ B.C. 4 \_\_\_\_\_  
 SERIAL #: Bc 770 Bc 838 \_\_\_\_\_  
 CAL DATE: 1-7-98 1-6-98 \_\_\_\_\_  
 CAL DUE DATE: 7-7-98 7-6-98 \_\_\_\_\_

## TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR: \_\_\_\_\_ N.E. TECH \_\_\_\_\_  
 MODEL: \_\_\_\_\_ ELECTRA \_\_\_\_\_  
 SERIAL #: \_\_\_\_\_  
 CAL DATE: \_\_\_\_\_  
 CAL DUE DATE: \_\_\_\_\_  
 BACKGROUND: \_\_\_\_\_  
 EFFICIENCY: \_\_\_\_\_  
 MDA: \_\_\_\_\_

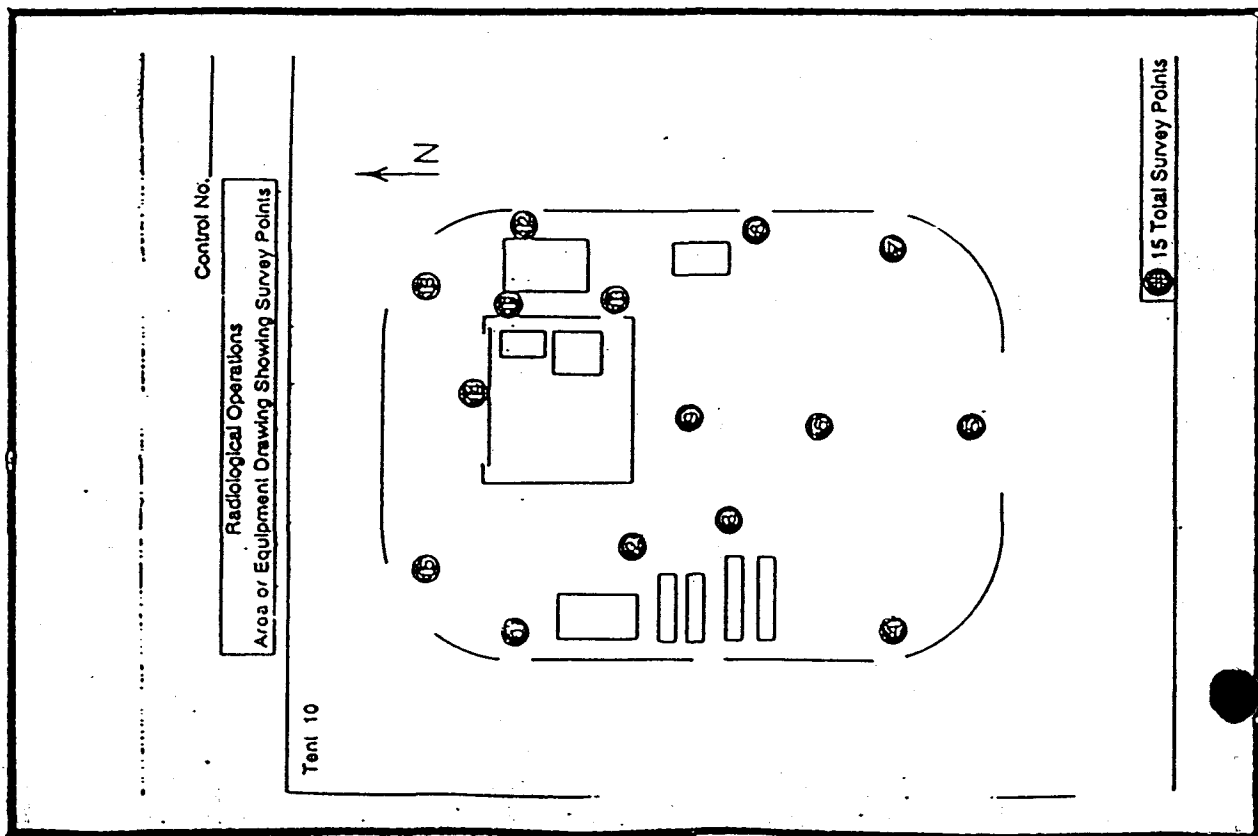
REVIEWED BY: R. Sawyer RO SUPERVISION PRINT NAME  
[Signature] / 6/9/98 DATE  
[Signature] RO SUPERVISION SIGNATURE

MDA = CF X [2.71 + 4.65] ☒ BACKGROUND (CPM)]

# RADIOLOGICAL CONTAMINATION SURVEY FORM

### SURVEY RESULTS (DPM/100 CM<sup>2</sup>)

## SKETCH

[illegible]

# INFORMATION ONLY REMEDIATION SURVEY FORM

PAGE 1 OF 2

LOG NUMBER: _____	
FOR: _____ P/WRE _____ PRL _____	OTHER <u>Routine</u>
BUILDING/LOCATION: <u>904 Pad</u>	ROOM: <u>Tent 10</u>
DATE: <u>6-9-98</u>	TIME: <u>1000</u>
ITEM DESCRIPTION: <u>Weekly Control Point Survey</u>	
COMMENTS: _____	
PERFORMED BY (PRINT NAME): <u>[Signature]</u>	
RCT SIGNATURE	DATE: <u>6-9-98</u>

## REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR: \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_

MODEL: \_\_\_\_\_ S.A.C. - 4 \_\_\_\_\_ S.A.C. - 4 \_\_\_\_\_ S.A.C. - 4 \_\_\_\_\_

SERIAL #: 795 824 \_\_\_\_\_

CAL DATE: 3-13-98 3-24-98 \_\_\_\_\_

CAL DUE DATE: 9-13-98 9-24-98 \_\_\_\_\_

MFR: \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_

MODEL: \_\_\_\_\_ B.C. 4 \_\_\_\_\_ B.C. 4 \_\_\_\_\_ B.C. 4 \_\_\_\_\_

SERIAL #: 62770 82838 \_\_\_\_\_

CAL DATE: 1-7-98 1-6-98 \_\_\_\_\_

CAL DUE DATE: 7-7-98 7-6-98 \_\_\_\_\_

## TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR: \_\_\_\_\_ N.E. TECH \_\_\_\_\_

MODEL: \_\_\_\_\_ ELECTRA \_\_\_\_\_

SERIAL #: \_\_\_\_\_

CAL DATE: \_\_\_\_\_

CAL DUE DATE: \_\_\_\_\_

BACKGROUND: \_\_\_\_\_

EFFICIENCY: \_\_\_\_\_

MDA: \_\_\_\_\_

REVIEWED BY: \_\_\_\_\_

RO SUPERVISION PRINT NAME

R. Sample

6/26/98

DATE

MDA = CF X (2.71 + 4.65) ☒ BACKGROUND (CPM))

SURVEY RESULTS (DPM/100 CM<sup>2</sup>)

Control No. \_\_\_\_\_

Radlological Operations  
Area or Equipment Drawing Showing Survey Points

Tent 10

N

15 Total Survey Points

[illegible]

# INFORMATIONAL CONTAMINATION SURVEY FORM

LOG NUMBER:	
FOR: P/RE PRL	OTHER Routine
BUILDING/LOCATION: 906	ROOM: 1ent10
DATE: 6-9-98	TIME: 1330
ITEM DESCRIPTION: Weekly Survey	
COMMENTS:	
PERFORMED BY (PRINT NAME): Hankins	
RCT SIGNATURE	DATE: 6-5-98

## REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.
MODEL:	S.A.C. 4	S.A.C. 4	S.A.C. 4
SERIAL #:	795	824	
CAL DATE:	3-13-98	3-24-98	
CAL DUE DATE:	9-13-98	9-24-98	

MFR:	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	770	838	
CAL DATE:	1-7-98	1-6-98	
CAL DUE DATE:	7-7-98	7-6-98	

## TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH		
MODEL:	ELECTRA		
SERIAL #:			
CAL DATE:			
CAL DUE DATE:			
BACKGROUND:			
EFFICIENCY:			
MDA:			

REVIEWED BY: R. Sempere

RO SUPERVISION PRINT NAME

RO SUPERVISION SIGNATURE

DATE: 6/25/98

MDA = CF X (2.71 + 4.65) √ BACKGROUND (CPM)

# RADIOLOGICAL CONTAMINATION SURVEY FORM

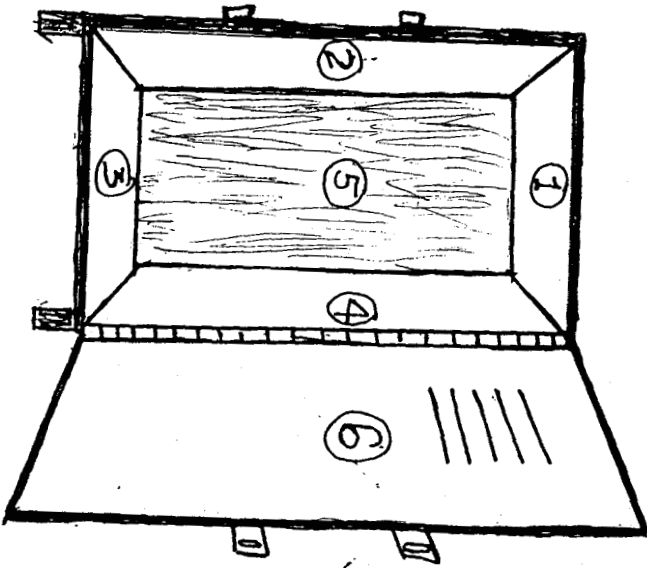
LOG / SURVEY NUMBER

DRAWING

SURVEY RESULTS (DPM/100 CM SQ)

PAGE 2 OF 2

904/906 Source Locker



SWIP #S	LOCATION/DESCRIPTION	REMOVABLE		TOTAL ALPHA PERK/10 COUNT	TOTAL BETA/ GAMMA
		ALPHA	BETA/ GAMMA		
1	See map	<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					

05

# FOR RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER: _____	
FOR: _____ P/WRE _____ PRL _____	
RWP <input checked="" type="checkbox"/> OTHER <u>Routine</u>	
BUILDING/LOCATION: <u>God Pad</u>	ROOM: <u>Test 10</u>
DATE: <u>6-17-98</u>	TIME: <u>0900</u>
ITEM DESCRIPTION: <u>Weekly Control Point Survey</u>	
COMMENTS: _____	
PERFORMED BY (PRINT NAME): <u>W. [Redacted]</u> DATE: <u>6-17-98</u>	
RCT SIGNATURE: <u>[Signature]</u>	

## REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR: _____	EBER. _____	EBER. _____	EBER. _____
MODEL: _____	S.A.C. - 4 _____	S.A.C. - 4 _____	S.A.C. - 4 _____
SERIAL #: _____	<u>795</u>	<u>824</u>	
CAL DATE: _____	<u>3-13-98</u>	<u>3-24-98</u>	
CAL DUE DATE: _____	<u>9-13-98</u>	<u>9-24-98</u>	

MFR: _____	EBER. _____	EBER. _____	EBER. _____
MODEL: _____	B.C. 4 _____	B.C. 4 _____	B.C. 4 _____
SERIAL #: _____	<u>Bc770</u>	<u>Bc838</u>	
CAL DATE: _____	<u>1-7-98</u>	<u>1-6-98</u>	
CAL DUE DATE: _____	<u>7-7-98</u>	<u>7-6-98</u>	

## TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR: _____	N.E. TECH _____
MODEL: _____	ELECTRA _____
SERIAL #: _____	
CAL DATE: _____	
CAL DUE DATE: _____	
BACKGROUND: _____	
EFFICIENCY: _____	
MDA: _____	

REVIEWED BY: R. [Redacted] RO SUPERVISION PRINT NAME

RO SUPERVISION SIGNATURE: [Signature] DATE: 6/25/98

MDA = CF X [2.71 + 4.65] ☒ BACKGROUND (CPM)





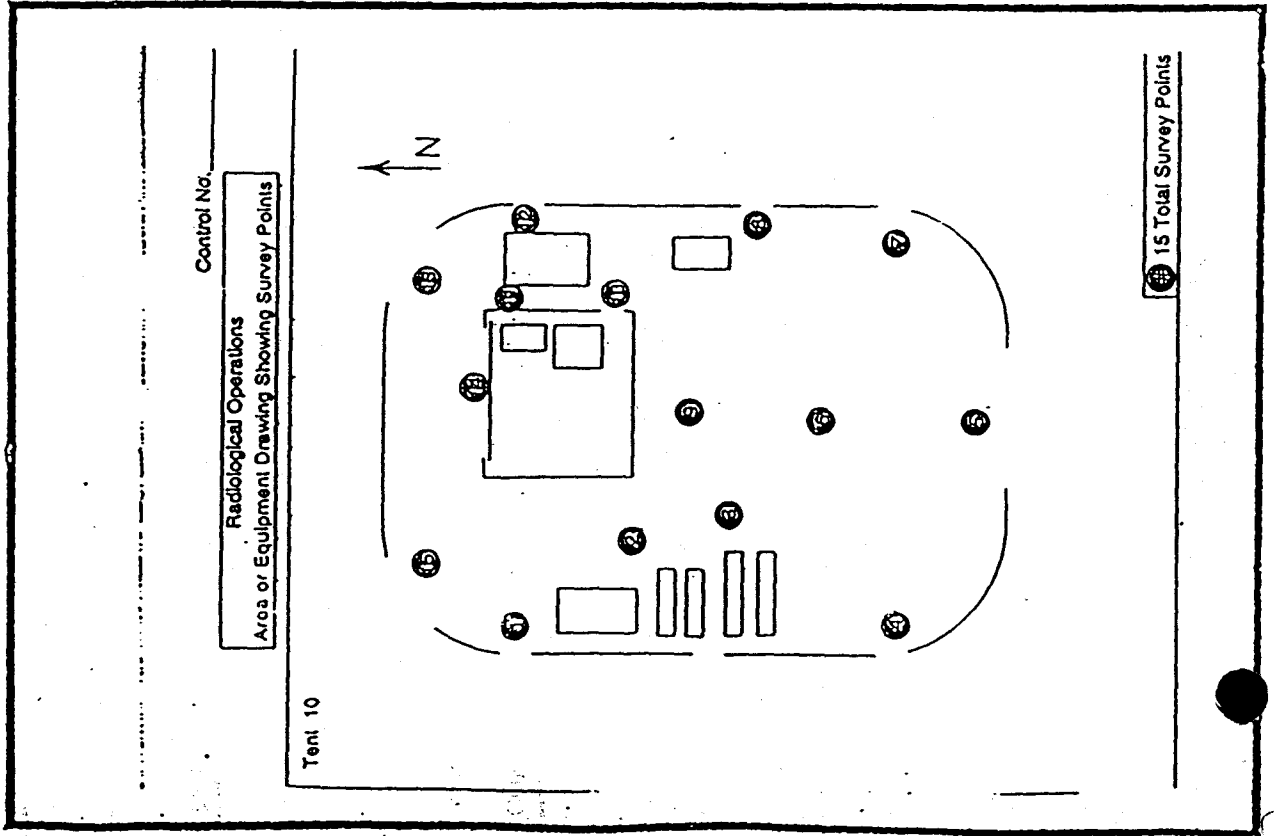
# RADIOLOGICAL CONTAMINATION SURVEY FORM

PAGE 2 OF 2

LOG NUMBER: \_\_\_\_\_

SURVEY RESULTS (DPM/100 CM<sup>2</sup>)

SKETCH



SWIPE	LOCATION/DESCRIPTION	REMOVABLE		TOTAL ALPHA INSTRUMENT SIZE COUNT	TOTAL BETA/ INSTRUMENT COUNT
		ALPHA	BETA		
1		120	1200		
2		120	1200		
3		120	1200		
4		120	1200		
5		120	1200		
6		120	1200		
7		120	1200		
8		120	1200		
9		120	1200		
10		120	1200		
11		120	1200		
12		120	1200		
13		120	1200		
14		120	1200		
15		120	1200		
Total					

# RADIOLOGICAL CONTAMINATION SURVEY FORM

PAGE 1 OF 2

LOG NUMBER: _____	
FOR: _____ PWRE _____ PRL _____	
_____ RWP <input checked="" type="checkbox"/> OTHER <u>Routine</u>	
BUILDING/LOCATION: <u>904 Pad</u>	ROOM: <u>Tent 10</u>
DATE: <u>6-24-98</u>	TIME: <u>0830</u>
ITEM DESCRIPTION: <u>Weekly Control Point Survey</u>	
COMMENTS: _____	
_____	
_____	
_____	
_____	
_____	
PERFORMED BY (PRINT NAME): <u>W. M. M. O. Z.</u>	
<u>[Signature]</u> RCT SIGNATURE	<u>6-24-98</u> DATE

REVIEWED BY:

RO SUPERVISION PRINT NAME

R. Sund

**RO SUPERVISION F F F**

**RO SUPERVISION SIGNATURE**

35

$$\text{MDA} = \text{CF} \times [2.71 + 4.65$$

✓ BACKGROUND (CPM) (J)

REMOVABLE CONTAMINATION  
SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	795	824	
CAL DATE:	3-13-98	3-24-98	
CAL DUE DATE:	9-13-98	9-24-98	

MFR:	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	8c770	8c838	
CAL DATE:	1-7-98	1-6-98	
CAL DUE DATE:	7-7-98	7-6-98	

## TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR: N.E. TECH \_\_\_\_\_  
MODEL: ELECTRA \_\_\_\_\_  
SERIAL #: \_\_\_\_\_  
CAL DATE: \_\_\_\_\_  
CAL DUE DATE: \_\_\_\_\_  
BACKGROUND: \_\_\_\_\_  
EFFICIENCY: \_\_\_\_\_  
MDA: \_\_\_\_\_

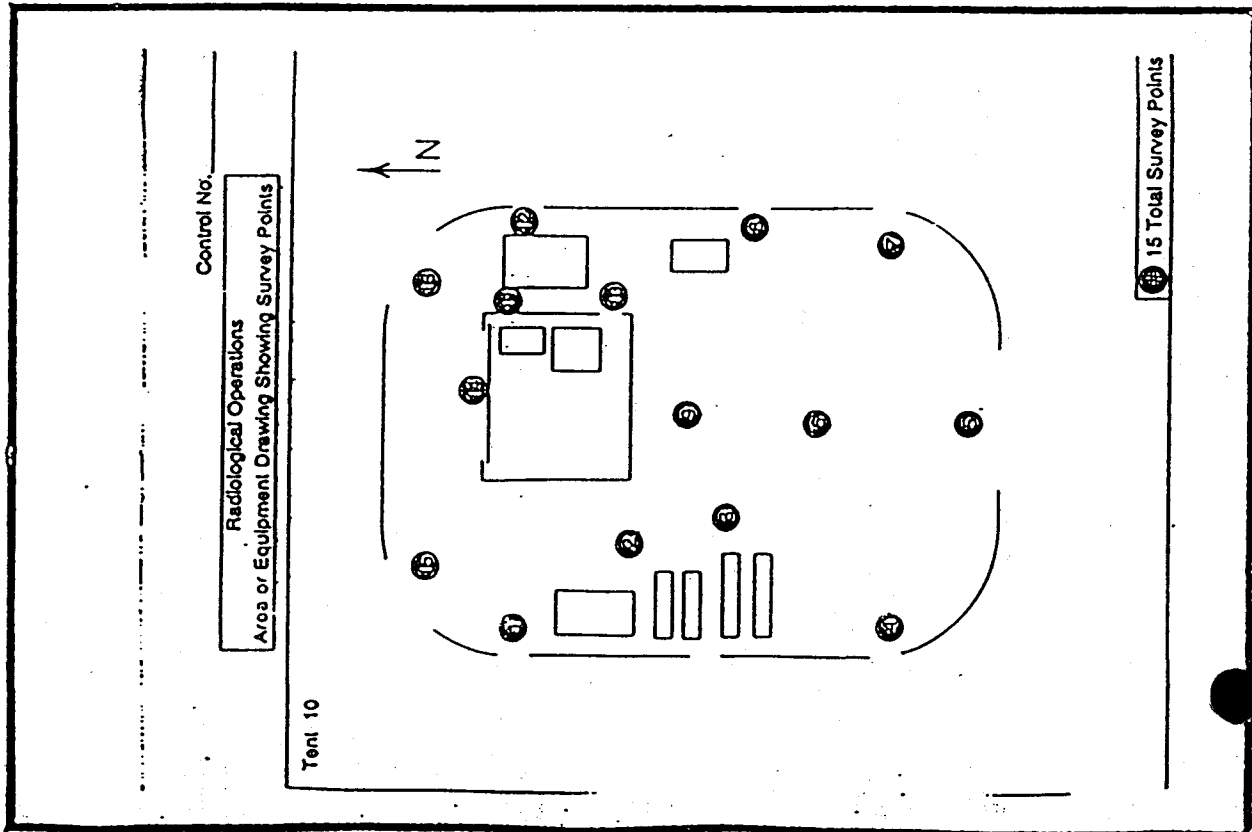
# RADIOLOGICAL CONTAMINATION SURVEY FORM

PAGE 2 OF 2

LOG NUMBER: \_\_\_\_\_

SURVEY RESULTS (DPM/100 CM<sup>2</sup>)

SKETCH



SWIPE	LOCATION/DESCRIPTION	REMOVABLE		TOTAL ALPHA INSTRUMENT READING	TOTAL BETA/ GROSS
		ALPHA	BETA/GROSS		
1		220	2200		
2		220	2200		
3		220	2200		
4		220	2200		
5		220	2200		
6		220	2200		
7		220	2200		
8		220	2200		
9		220	2200		
10		220	2200		
11		220	2200		
12		220	2200		
13		220	2200		
14		220	2200		
15		220	2200		
6-24-78					

## ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## INSTRUMENT DATA

Mfg. <u>Eberline</u>	Mfg. <u>Eberline</u>	Mfg. <u></u>
Model <u>SAC-4</u>	Model <u>SAC-4</u>	Model <u></u>
Serial # <u>795</u>	Serial # <u>824</u>	Serial # <u></u>
Cal Due <u>9-13-98</u>	Cal Due <u>9-24-98</u>	Cal Due <u></u>
Bkg. <u>0.2</u>	Bkg. <u>0.2</u>	Bkg. <u></u>
Efficiency <u>33%</u>	Efficiency <u>33%</u>	Efficiency <u></u>
MDA <u>&lt;20</u>	MDA <u>&lt;20</u>	MDA <u></u>
Mfg. <u>Eberline</u>	Mfg. <u>Eberline</u>	Mfg. <u></u>
Model <u>BC-4</u>	Model <u>BC-4</u>	Model <u></u>
Serial # <u>BC220</u>	Serial # <u>BC838</u>	Serial # <u></u>
Cal Due <u>7-7-98</u>	Cal Due <u>7-6-98</u>	Cal Due <u></u>
Bkg. <u>41</u>	Bkg. <u>43</u>	Bkg. <u></u>
Efficiency <u>25%</u>	Efficiency <u>25%</u>	Efficiency <u></u>
MDA <u>&lt;200</u>	MDA <u>&lt;200</u>	MDA <u></u>

Survey Type: Contamination SurveyBuilding: 904 PadLocation: Tent 10Purpose: Weekly Control Point SurveyRWP #: an 7-1-98Date: 7-1-98 Time: 0830RCT: Munoz [Signature]  
Print name SignatureRCT: an 7-1-98  
Print name Signature Emp. #

an 7-1-98

PRL #: RoutineComments: See attached form for survey results

## SURVEY RESULTS

INFORMATION ONLY

an 7-1-98

Date Reviewed: 7/23/98RS Supervision: R Sawyer

Print Name

Signature

Emp. #

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

7-1-98

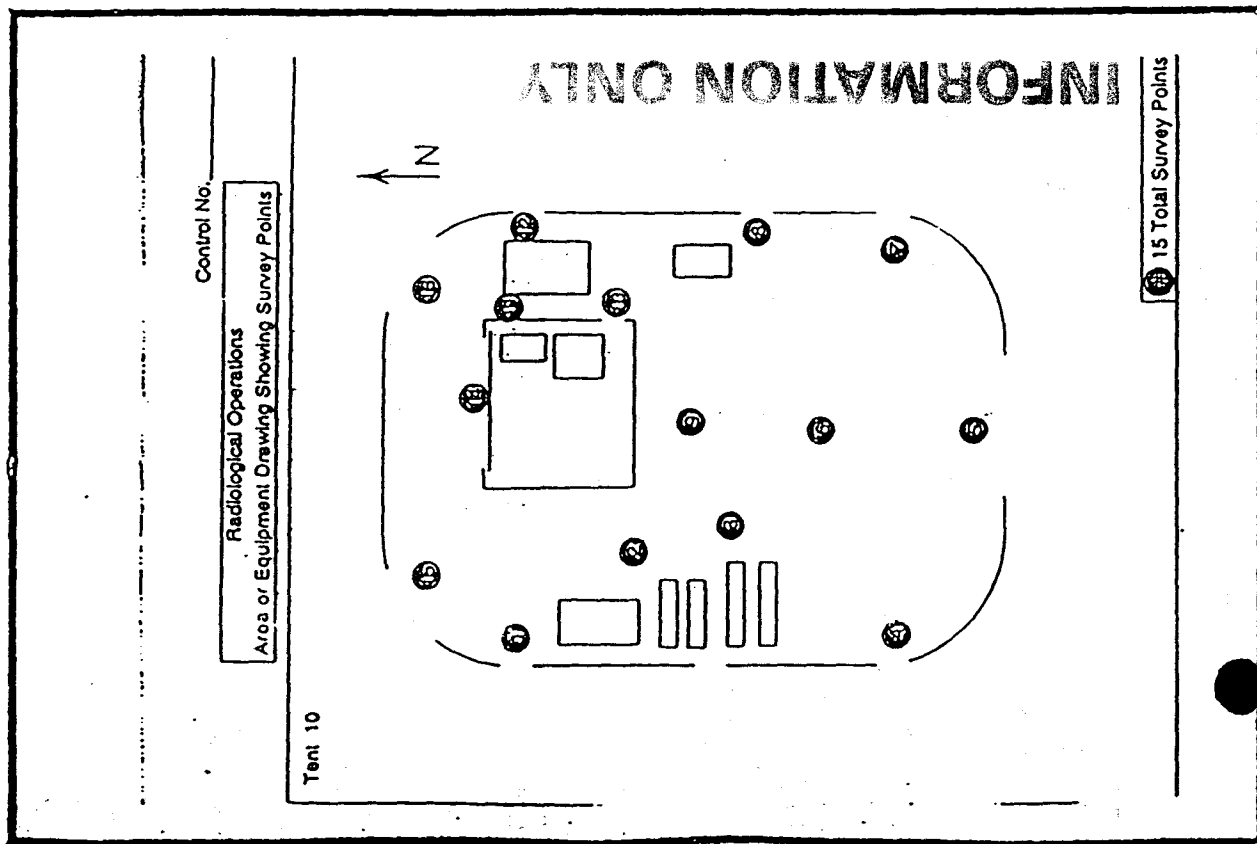
LOG NUMBER:

# RADIOLOGICAL CONTAMINATION SURVEY FORM

PAGE 2 OF 3

**SURVEY RESULTS (DPM/100 CM<sup>2</sup>)**

KL3Y

[illegible]

# RADIOLOGICAL CONTAMINATION SURVEY FORM

PAGE 1 OF 2

## REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

LOG NUMBER: _____	
FOR: _____ PWRE _____ PRL _____	OTHER _____
BUILDING/LOCATION: _____	ROOM: _____
DATE: _____	TIME: _____
ITEM DESCRIPTION: _____	
COMMENTS: _____	
PERFORMED BY (PRINT NAME): _____	
RCT SIGNATURE _____	EMP# _____ DATE _____

MFR: \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_  
 MODEL: \_\_\_\_\_ S.A.C. - 4 \_\_\_\_\_ S.A.C. - 4 \_\_\_\_\_ S.A.C. - 4 \_\_\_\_\_  
 SERIAL #: \_\_\_\_\_  
 CAL DATE: \_\_\_\_\_  
 CAL DUE DATE: \_\_\_\_\_

MFR: \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_  
 MODEL: \_\_\_\_\_ B.C. 4 \_\_\_\_\_ B.C. 4 \_\_\_\_\_ B.C. 4 \_\_\_\_\_  
 SERIAL #: \_\_\_\_\_  
 CAL DATE: \_\_\_\_\_  
 CAL DUE DATE: \_\_\_\_\_

## TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR: \_\_\_\_\_ N.E. TECH \_\_\_\_\_  
 MODEL: \_\_\_\_\_ ELECTRA \_\_\_\_\_  
 SERIAL #: \_\_\_\_\_  
 CAL DATE: \_\_\_\_\_  
 CAL DUE DATE: \_\_\_\_\_  
 BACKGROUND: \_\_\_\_\_  
 EFFICIENCY: \_\_\_\_\_  
 MDA: \_\_\_\_\_

REVIEWED BY: \_\_\_\_\_ RO SUPERVISION PRINT NAME \_\_\_\_\_  
 \_\_\_\_\_ RO SUPERVISION SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

$$MDA = CF \times [2.71 + 4.65 \sqrt{\text{BACKGROUND (CPM)}}]$$

## ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## INSTRUMENT DATA

Mfg. <u>Eberline</u>	Mfg. <u>Eberline</u>	Mfg. <u>Eberline</u>
Model <u>SAC-4</u>	Model <u>SAC-4</u>	Model <u>SAC-4</u>
Serial # <u>795</u>	Serial # <u>824</u>	Serial # <u>824</u>
Cal Due <u>9-13-98</u>	Cal Due <u>9-13-98</u>	Cal Due <u>9-13-98</u>
Bkg. <u>0.1</u>	Bkg. <u>0.1</u>	Bkg. <u>0.1</u>
Efficiency <u>33%</u>	Efficiency <u>33%</u>	Efficiency <u>33%</u>
MDA <u>20 dpm</u>	MDA <u>20 dpm</u>	MDA <u>20 dpm</u>
Mfg. <u>Eberline</u>	Mfg. <u>Eberline</u>	Mfg. <u>Eberline</u>
Model <u>Bc-4</u>	Model <u>Bc-4</u>	Model <u>Bc-4</u>
Serial # <u>Bc 704</u>	Serial # <u>Bc 702</u>	Serial # <u>Bc 702</u>
Cal Due <u>12-11-98</u>	Cal Due <u>12-15-98</u>	Cal Due <u>12-15-98</u>
Bkg. <u>36</u>	Bkg. <u>38</u>	Bkg. <u>38</u>
Efficiency <u>25%</u>	Efficiency <u>25%</u>	Efficiency <u>25%</u>
MDA <u>200 dpm</u>	MDA <u>200 dpm</u>	MDA <u>200 dpm</u>

Survey Type: Contamination SurveyBuilding: 904 PadLocation: TENT 10Purpose: Weekly Control Point SurveyRWP #: 7-8-98Date: 7-8-98 Time: 0600RCT: Winters Winters  
Print name SignatureRCT: Harkins Harkins  
Print name Signature

Emp. #

PRL #: 7-8-98Comments: Weekly Surveys include Source Locker, Tent 7, Locker Room, Break Room, 904 Pad, Tent 8, Tent 9, Tent 10, Tent 11

## SURVEY RESULTS

\* See attached sheets for weekly survey results

## INFORMATION ONLY

Date Reviewed: 7/23/98RS Supervision: R. Sawyer

Print Name

Signature

Emp. #





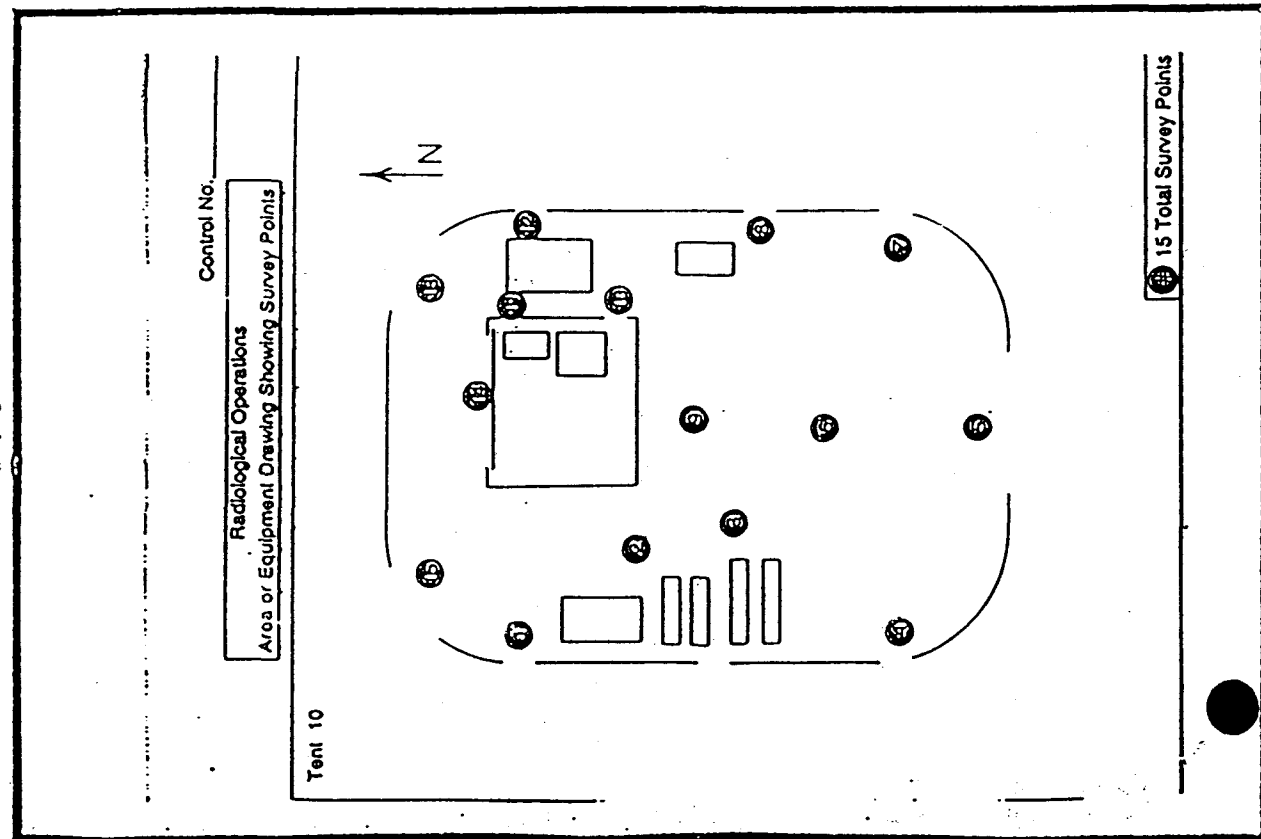
GE 20-58

PAGE

# RADIOLOGICAL CONTAMINATION SURVEY FORM

### SURVEY RESULTS (DPM/100 CM<sup>2</sup>)

## SKETCH

[illegible]

# RADIOLOGICAL CONTAMINATION SURVEY FORM

PAGE 1 OF 2

LOG NUMBER:	
FOR: P/WRE _____ PRL _____	
RWP _____ OTHER _____	
BUILDING/LOCATION:	ROOM:
DATE:	TIME:
ITEM DESCRIPTION:	
COMMENTS:	
PERFORMED BY (PRINT NAME):	
RCT SIGNATURE	EMP# / DATE

## REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR: \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_

MODEL: \_\_\_\_\_ S.A.C. - 4 \_\_\_\_\_ S.A.C. - 4 \_\_\_\_\_ S.A.C. - 4 \_\_\_\_\_

SERIAL #: \_\_\_\_\_

CAL DATE: \_\_\_\_\_

CAL DUE DATE: \_\_\_\_\_

MFR: \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_

MODEL: \_\_\_\_\_ B.C. 4 \_\_\_\_\_ B.C. 4 \_\_\_\_\_ B.C. 4 \_\_\_\_\_

SERIAL #: \_\_\_\_\_

CAL DATE: \_\_\_\_\_

CAL DUE DATE: \_\_\_\_\_

## TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR: \_\_\_\_\_ N.E. TECH \_\_\_\_\_

MODEL: \_\_\_\_\_ ELECTRA \_\_\_\_\_

SERIAL #: \_\_\_\_\_

CAL DATE: \_\_\_\_\_

CAL DUE DATE: \_\_\_\_\_

BACKGROUND: \_\_\_\_\_

EFFICIENCY: \_\_\_\_\_

MDA: \_\_\_\_\_

REVIEWED BY: \_\_\_\_\_ RO SUPERVISION PRINT NAME \_\_\_\_\_

RO SUPERVISION SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

MDA = CF X (2.71 + 4.65) ☒ BACKGROUND (CPM)

## ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## INSTRUMENT DATA

Mfg. <u>Eberline</u>	Mfg. <u>Eberline</u>	Mfg. <u>Eberline</u>
Model <u>SAC 4</u>	Model <u>SAC 4</u>	Model <u>BC 4</u>
Serial # <u>795</u>	Serial # <u>824</u>	Serial # <u>704</u>
Cal Due <u>9-13-98</u>	Cal Due <u>9-24-98</u>	Cal Due <u>12-11-98</u>
Bkg. <u>0.0</u>	Bkg. <u>0.0</u>	Bkg. <u>35</u>
Efficiency <u>33%</u>	Efficiency <u>33%</u>	Efficiency <u>25%</u>
MDA <u>120</u>	MDA <u>120</u>	MDA <u>1200</u>

Mfg. <u>Eberline</u>	Mfg. <u>NEtec</u>	Mfg. <u></u>
Model <u>BC 4</u>	Model <u>ELECTRA</u>	Model <u></u>
Serial # <u>702</u>	Serial # <u>1680</u>	Serial # <u>74</u>
Cal Due <u>12-15-98</u>	Cal Due <u>9-3-98</u>	Cal Due <u>7/6/98</u>
Bkg. <u>38</u>	Bkg. <u>2.10</u>	Bkg. <u>7.6</u>
Efficiency <u>25%</u>	Efficiency <u>2.43%</u>	Efficiency <u>76%</u>
MDA <u>1200</u>	MDA <u>13.45</u>	MDA <u></u>

Survey Type: ContaminationBuilding: 904Location: 904 Pad office Lecker RmPurpose: Weekly TENT 10RWP # 24Date: 2-16-98 Time: 1540RCT: L Hankins J Hab

Print name

Signature

Emp. #

RCT: 1

Print name

Signature

Emp. #

PRE # JH 7-14-98Comments: NONE

## SURVEY RESULTS

See following pages for survey results.

INFORMATION ONLY

JH 2-16-98Date Reviewed: 8/5/98RS Supervision: R. S. Myers

Print Name

Signature



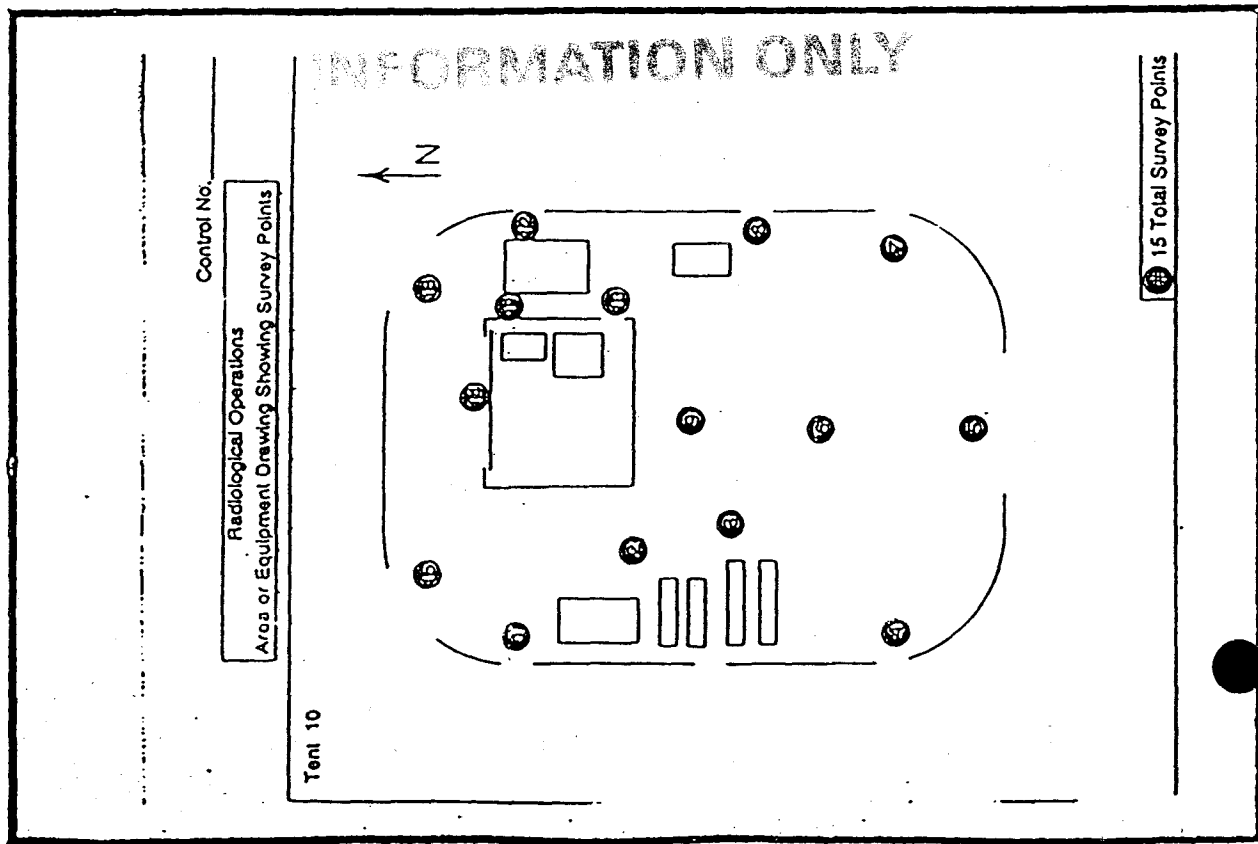
42



# RADIOLOGICAL CONTAMINATION SURVEY FORM

### SURVEY RESULTS (DPM/100 CM<sup>2</sup>)

## SKETCH

[illegible]

# RADIOLOGICAL CONTAMINATION SURVEY FORM

PAGE 1 OF 2

## REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

LOG NUMBER:	
FOR: P/WRE PRL	RWR OTHER
BUILDING/LOCATION:	ROOM:
DATE:	TIME:
ITEM DESCRIPTION:	
COMMENTS:	
PERFORMED BY (PRINT NAME):	
RCT SIGNATURE	EMP# DATE

MFR: EBER. EBER. EBER. EBER.  
 MODEL: S.A.C. - 4 S.A.C. - 4 S.A.C. - 4 S.A.C. - 4  
 SERIAL #: S.A.C. - 4 S.A.C. - 4 S.A.C. - 4 S.A.C. - 4  
 CAL DATE: S.A.C. - 4 S.A.C. - 4 S.A.C. - 4 S.A.C. - 4  
 CAL DUE DATE: S.A.C. - 4 S.A.C. - 4 S.A.C. - 4 S.A.C. - 4

MFR: EBER. EBER. EBER. EBER.  
 MODEL: B.C. 4 B.C. 4 B.C. 4 B.C. 4  
 SERIAL #: B.C. 4 B.C. 4 B.C. 4 B.C. 4  
 CAL DATE: B.C. 4 B.C. 4 B.C. 4 B.C. 4  
 CAL DUE DATE: B.C. 4 B.C. 4 B.C. 4 B.C. 4

## TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR: N.E. TECH N.E. TECH N.E. TECH N.E. TECH  
 MODEL: ELECTRA ELECTRA ELECTRA ELECTRA  
 SERIAL #: ELECTRA ELECTRA ELECTRA ELECTRA  
 CAL DATE: ELECTRA ELECTRA ELECTRA ELECTRA  
 CAL DUE DATE: ELECTRA ELECTRA ELECTRA ELECTRA  
 BACKGROUND: ELECTRA ELECTRA ELECTRA ELECTRA  
 EFFICIENCY: ELECTRA ELECTRA ELECTRA ELECTRA  
 MDA: ELECTRA ELECTRA ELECTRA ELECTRA

REVIEWED BY: RO SUPERVISION PRINT NAME

RO SUPERVISION SIGNATURE DATE

$$MDA = CF \times (2.71 + 4.65 \sqrt{\text{BACKGROUND (CPM)}})$$

## ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## INSTRUMENT DATA

Mfg. <u>Eberline</u>	Mfg. <u>Eberline</u>	Mfg. <u><del>_____</del></u>
Model <u>SAC-4</u>	Model <u>SAC-4</u>	Model <u><del>_____</del></u>
Serial # <u>795</u>	Serial # <u>824</u>	Serial # <u><del>_____</del></u>
Cal Due <u>9-13-98</u>	Cal Due <u>9-24-98</u>	Cal Due <u><del>_____</del></u>
Bkg. <u>0.0</u>	Bkg. <u>0.0</u>	Bkg. <u><del>_____</del></u>
Efficiency <u>33%</u>	Efficiency <u>33%</u>	Efficiency <u><del>_____</del></u>
MDA <u>200 d/m</u>	MDA <u>200 d/m</u>	MDA <u><del>_____</del></u>
Mfg. <u>Eberline</u>	Mfg. <u>Eberline</u>	Mfg. <u><del>_____</del></u>
Model <u>BC-4</u>	Model <u>BC-4</u>	Model <u><del>_____</del></u>
Serial # <u>BC704</u>	Serial # <u>BC702</u>	Serial # <u><del>_____</del></u>
Cal Due <u>12-11-98</u>	Cal Due <u>12-15-98</u>	Cal Due <u><del>_____</del></u>
Bkg. <u>36</u>	Bkg. <u>38</u>	Bkg. <u><del>_____</del></u>
Efficiency <u>25%</u>	Efficiency <u>25%</u>	Efficiency <u><del>_____</del></u>
MDA <u>200 d/m</u>	MDA <u>200 d/m</u>	MDA <u><del>_____</del></u>

Survey Type: Contamination Survey  
 Building: 904 Pad  
 Location: 904 Pad T-7, T8, T9, T10, T11 Break  
 Purpose: Room Locker Room, Service Locker  
Weekly Control Point  
 RWP #: on 7-22-98

Date: 7-22-98 Time: 0800

RCT: Hankins J. Hankins  
 Print name Signature

RCT: Munoz M. Munoz  
 Print name Signature Emp. #

PRL #: on 7-22-98

Comments:

\* See attached survey forms for survey results

TENT 10

## SURVEY RESULTS

INFORMATION ONLY

on 7-22-98

Date Reviewed: 8/5/98

RS Supervision:

Print Name

Signature



ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

*Allen* 7-22-98

# RADIOLOGICAL CONTAMINATION SURVEY FORM

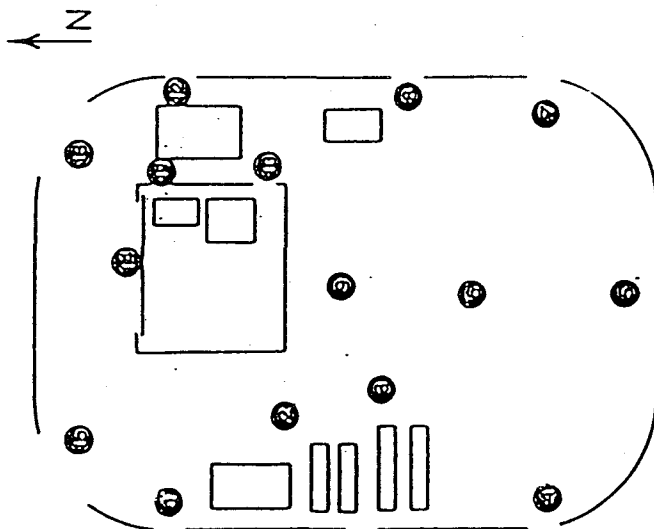
**SURVEY RESULTS (DPM/100 CM<sup>2</sup>)**

5X3101

Control No.:

Area or Equipment Drawing Showing Survey Points	Radiological Operations

**Test 10**



**15 Total Survey Points**

INFORMATION ONLY

[illegible]

5-22-58

# RADIOLOGICAL CONTAMINATION SURVEY FORM

PAGE 1 OF 2

LOG NUMBER:	
FOR: _____ P/WRE _____ PRL _____	
_____ RWP _____ OTHER _____	
BUILDING/LOCATION:	ROOM:
DATE:	TIME:
ITEM DESCRIPTION:	
COMMENTS:	
PERFORMED BY (PRINT NAME):	
RCT SIGNATURE	EMP# / DATE

## REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR: \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_  
 MODEL: \_\_\_\_\_ S.A.C. - 4 \_\_\_\_\_ S.A.C. - 4 \_\_\_\_\_ S.A.C. - 4 \_\_\_\_\_  
 SERIAL #: \_\_\_\_\_  
 CAL DATE: \_\_\_\_\_  
 CAL DUE DATE: \_\_\_\_\_

MFR: \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_  
 MODEL: \_\_\_\_\_ B.C. 4 \_\_\_\_\_ B.C. 4 \_\_\_\_\_ B.C. 4 \_\_\_\_\_  
 SERIAL #: \_\_\_\_\_  
 CAL DATE: \_\_\_\_\_  
 CAL DUE DATE: \_\_\_\_\_

## TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR: \_\_\_\_\_ N.E. TECH \_\_\_\_\_  
 MODEL: \_\_\_\_\_ ELECTRA \_\_\_\_\_  
 SERIAL #: \_\_\_\_\_  
 CAL DATE: \_\_\_\_\_  
 CAL DUE DATE: \_\_\_\_\_  
 BACKGROUND: \_\_\_\_\_  
 EFFICIENCY: \_\_\_\_\_  
 MDA: \_\_\_\_\_

REVIEWED BY: \_\_\_\_\_ RO SUPERVISION PRINT NAME \_\_\_\_\_  
 \_\_\_\_\_ RO SUPERVISION SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

MDA = CF X [2.71 + 4.65 ☒ BACKGROUND (CPM)]

# ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model SAC-4	Model SAC-4	Model SAC-4
Serial # 795	Serial # 824	Serial # 8204
Cal Due 9-13-98	Cal Due 9-24-98	Cal Due 12-11-98
Bkg. 0.0	Bkg. 0.0	Bkg. 38
Efficiency 33%	Efficiency 33%	Efficiency 25%
MDA 20 d/m	MDA 20 d/m	MDA 200 d/m

Mfg. EBERLINE	Mfg. NE.TECH	Mfg. NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # <u>BC 702</u>	Serial # <u>7-1-58</u>	Serial # <u>7-30-58</u>
Cal Due <u>12-15-98</u>	Cal Due <u>7-1-58</u>	Cal Due <u>7-30-58</u>
Bkg. <u>38</u>	Bkg. <u>7-1-58</u>	Bkg. <u>7-30-58</u>
Efficiency <u>25%</u>	Efficiency <u>7-1-58</u>	Efficiency <u>7-30-58</u>
MDA <u>200%</u>	MDA	MDA

**Survey Type: CONTAMINATION**

Building: 904 Pad  
Location: T-7, Locker Room Break Room 904 Pad, T-8, T-9, T-11  
Purpose: <sup>Source Locker</sup> Weekly Control Point Survey

TENT 10  
RWP #:                      an 7-30-98

Date: 7-30-98 Time: 0900

RCT: MJ402      [Signature]  
 Print name      Signature      Emp. #

RCT: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
 Print name Signature Emp. #

PRL #: W 7-30-98

Comments: Survey results, for each survey, are located on attached sheets

## SURVEY RESULTS

REMOVABLE		DIRECT		REMOVABLE		DIRECT	
ALPHA	BETA	ALPHA	BETA	ALPHA	BETA	ALPHA	BETA
1.							
2.							
3.							
4.							
5.							
6.							
7.							
8.							
9.							
10.							
11.							
12.							
13.							
14.							
15.							
16.							
17.							
18.							
19.							
20.							
21.							
22.							

Date Reviewed 8/26/98

**RS Supervision:**

Print Name \_\_\_\_\_

Signature

Emp. #

**ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE**

**RADIOLOGICAL SAFETY**

Drawing Showing Survey Points

*Done 5-30-68*

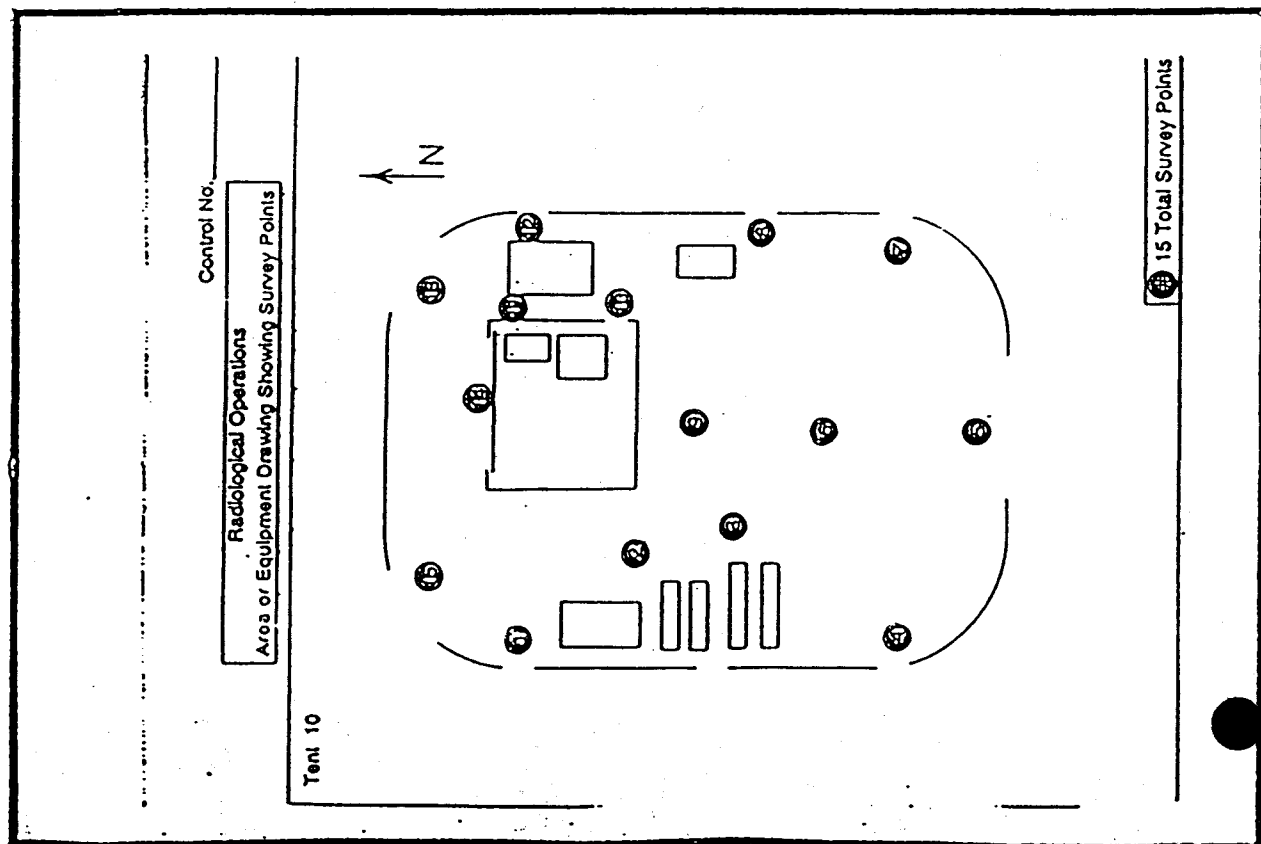
LOG NUMBER:

RADIOLOGICAL CONTAMINATION SURVEY FORM

PAGE 2 OF 2

**SURVEY RESULTS (DPM/100 CM<sup>2</sup>)**

SKETCH

[illegible]

44-730-38

**15 Total Survey Points**

# RADIOLOGICAL CONTAMINATION SURVEY FORM

PAGE 1 OF 2

LOG NUMBER:	
FOR: P/WRE PRL	OTHER
BUILDING/LOCATION:	ROOM:
DATE:	TIME:
ITEM DESCRIPTION:	
COMMENTS:	
PERFORMED BY (PRINT NAME):	
RCT SIGNATURE	EMP# DATE

## REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR: EBER. EBER. EBER. EBER.  
 MODEL: S.A.C. - 4 S.A.C. - 4 S.A.C. - 4 S.A.C. - 4  
 SERIAL #: S.A.C. - 4 S.A.C. - 4 S.A.C. - 4 S.A.C. - 4  
 CAL DATE: S.A.C. - 4 S.A.C. - 4 S.A.C. - 4 S.A.C. - 4  
 CAL DUE DATE: S.A.C. - 4 S.A.C. - 4 S.A.C. - 4 S.A.C. - 4

MFR: EBER. EBER. EBER. EBER.  
 MODEL: B.C. 4 B.C. 4 B.C. 4 B.C. 4  
 SERIAL #: B.C. 4 B.C. 4 B.C. 4 B.C. 4  
 CAL DATE: B.C. 4 B.C. 4 B.C. 4 B.C. 4  
 CAL DUE DATE: B.C. 4 B.C. 4 B.C. 4 B.C. 4

## TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR: N.E. TECH. N.E. TECH. N.E. TECH. N.E. TECH.  
 MODEL: ELECTRA ELECTRA ELECTRA ELECTRA  
 SERIAL #: ELECTRA ELECTRA ELECTRA ELECTRA  
 CAL DATE: ELECTRA ELECTRA ELECTRA ELECTRA  
 CAL DUE DATE: ELECTRA ELECTRA ELECTRA ELECTRA  
 BACKGROUND: ELECTRA ELECTRA ELECTRA ELECTRA  
 EFFICIENCY: ELECTRA ELECTRA ELECTRA ELECTRA  
 MDA: ELECTRA ELECTRA ELECTRA ELECTRA

REVIEWED BY: RO SUPERVISION PRINT NAME  
 RO SUPERVISION SIGNATURE DATE

MDA = CF X (2.71 + 4.65) √ BACKGROUND (CPM)

# ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model SAC-4	Model SAC-4	Model SAC-4
Serial # <u>795</u>	Serial # <u>824</u>	Serial # <u>13704</u>
Cal Due <u>9-13-98</u>	Cal Due <u>9-24-98</u>	Cal Due <u>12-11-98</u>
Bkg. <u>0.1</u>	Bkg. <u>0.1</u>	Bkg. <u>33</u>
Efficiency <u>33%</u>	Efficiency <u>33%</u>	Efficiency <u>25%</u>
MDA <u>200dpm</u>	MDA <u>200dpm</u>	MDA <u>200dpm</u>

**Survey Type: CONTAMINATION**

Building: 904

Location: TENT 10

Purpose: WEEKLY SURVEY

RWP #: an 8.5-98

Date: 8-5-98 Time: 0930

RCT: Wuoz / [Signature] [Redacted]  
Print name Signature Emp. #

RCT: \_\_\_\_\_  
 Print name                      Signature                      Emp. #

Mfg. EBERLINE	Mfg. NE.TECH	Mfg. NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # <u>Bc202</u>	Serial # <u>3</u>	Serial # <u>3</u>
Cal Due <u>12-15-98</u>	Cal Due <u>12-15-98</u>	Cal Due <u>12-15-98</u>
Bkg. <u>34</u>	Bkg. <u>34</u>	Bkg. <u>34</u>
Efficiency <u>25%</u>	Efficiency <u>25%</u>	Efficiency <u>25%</u>
MDA <u>200dan</u>	MDA	MDA

PRL #: aw 8-5-98

Comments: See reverse side for map

## SURVEY RESULTS

REMOVABLE		DIRECT		REMOVABLE		DIRECT	
ALPHA	BETA	ALPHA	BETA	ALPHA	BETA	ALPHA	BETA
1. $\angle 20$	$\angle 200$			23.			
2. $\angle 20$	$\angle 200$			24.			
3. $\angle 20$	$\angle 200$			25.			
4. $\angle 20$	$\angle 200$			26.			
5. $\angle 20$	$\angle 200$			27.			
6. $\angle 20$	$\angle 200$			28.			
7. $\angle 20$	$\angle 200$			29.			
8. $\angle 20$	$\angle 200$			30.			
9. $\angle 20$	$\angle 200$			31.			
10. $\angle 20$	$\angle 200$			32.			
11. $\angle 20$	$\angle 200$			33.			
12. $\angle 20$	$\angle 200$			34.			
13. $\angle 20$	$\angle 200$			35.			
14. $\angle 20$	$\angle 200$			36.			
15. $\angle 20$	$\angle 200$			37.			
16.				38.			
17.				39.			
18.				40.			
19.				41.			
20.				42.			
21.				43.			
22.				44.			

Date Reviewed: 8/16/98

RS Supervision: Samuel [Signature]  
Print Name Signature

Emp. #



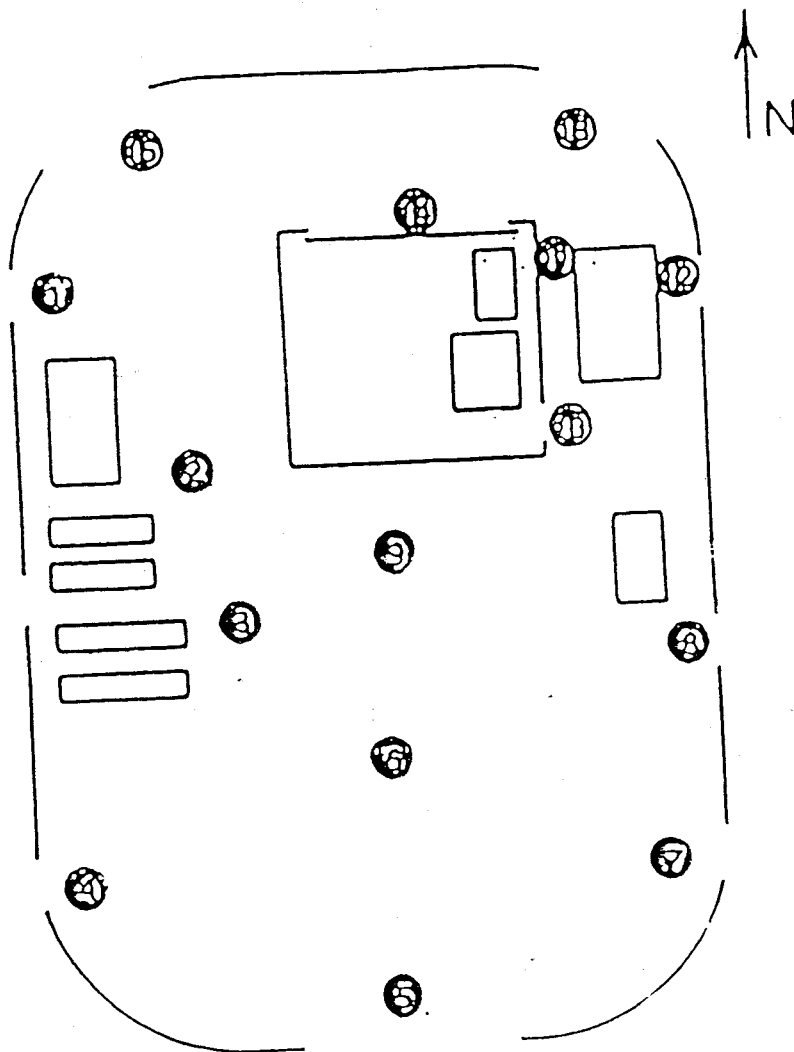
# ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## RADIOLOGICAL SAFETY

Drawing Showing Survey Points

Radiological Operations  
Area or Equipment Drawing Showing Survey Points

Tent 10



## ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

### INSTRUMENT DATA

TP 8/13/98

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model SAC-4	Model SAC-4	Model SAC-4
Serial # 795	Serial # 824	Serial # BC704
Cal Due 9/13/98	Cal Due 9/24/98	Cal Due 12/11/98
Bkg. 0.0	Bkg. 0.0	Bkg. 30
Efficiency 33%	Efficiency 33%	Efficiency 25%
MDA <2-	MDA <20	MDA <200

Survey Type: CONTAMINATION

Building: 904  
Location: TENT 10  
Purpose: WEEKLY SURVEY

RWP #: NA

Date: 8/13/98 Time: 10:00

RCT: TP 8/13/98 [Signature] Emp. # [Redacted]

RCT: [Signature] Emp. # [Redacted]

Mfg. EBERLINE	Mfg. NE.TECH	Mfg. NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # BC702	Serial # [Redacted]	Serial # [Redacted]
Cal Due 12/15/98	Cal Due [Redacted]	Cal Due [Redacted]
Bkg. 38	Bkg. [Redacted]	Bkg. [Redacted]
Efficiency 25%	Efficiency 8/13/98	Efficiency [Redacted]
MDA <200	MDA [Redacted]	MDA [Redacted]

PRL #: NA

Comments:

### SURVEY RESULTS

REMOVABLE		DIRECT		REMOVABLE		DIRECT	
ALPHA	BETA	ALPHA	BETA	ALPHA	BETA	ALPHA	BETA
1. <20	<200			23. [Redacted]			
2. <20	<200			24. [Redacted]			
3. <20	<200			25. [Redacted]			
4. <20	<200			26. [Redacted]			
5. <20	<200			27. [Redacted]			
6. <20	<200			28. [Redacted]			
7. <20	<200			29. [Redacted]			
8. <20	<200			30. [Redacted]			
9. <20	<200			31. [Redacted]			
10. <20	<200			32. [Redacted]			
11. <20	<200			33. [Redacted]			
12. <20	<200			34. [Redacted]			
13. <20	<200			35. [Redacted]			
14. <20	<200			36. [Redacted]			
15. <20	<200			37. [Redacted]			
16. [Redacted]				38. [Redacted]			
17. [Redacted]				39. [Redacted]			
18. [Redacted]				40. [Redacted]			
19. [Redacted]				41. [Redacted]			
20. [Redacted]				42. [Redacted]			
21. [Redacted]				43. [Redacted]			
22. [Redacted]				44. [Redacted]			

Date Reviewed: 8/26/98

RS Supervision: [Signature]

Print Name

Signature

Emp. #

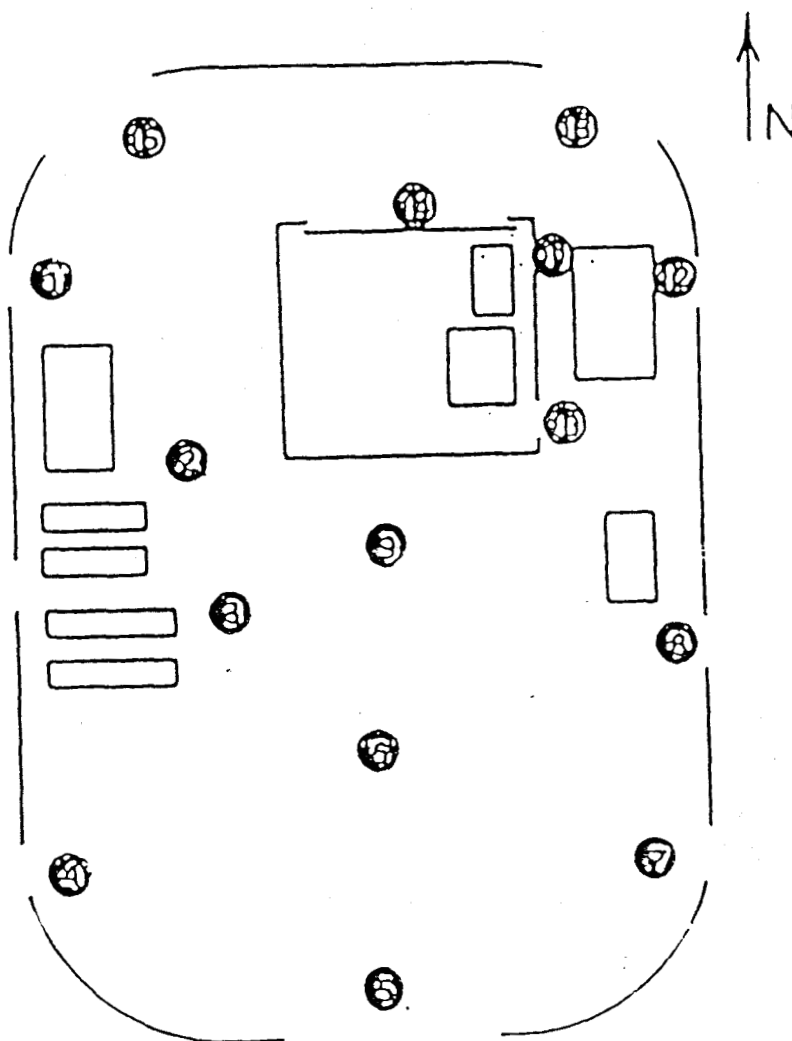
# ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## RADIOLOGICAL SAFETY

Drawing Showing Survey Points

Radiological Operations  
Area or Equipment Drawing Showing Survey Points

Tent 10



## INFORMATION ONLY

RS FORMS 07.02-01

## ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## INSTRUMENT DATA

Mfg. EBERLINE Mfg. EBERLINE Mfg. EBERLINE  
 Model SAC-4 Model SAC-4 Model SAC-4  
 Serial # 795 Serial # 824 Serial # 8204  
 Cal Due 9-13-98 Cal Due 9-24-98 Cal Due 12-11-98  
 Bkg. 0.0 Bkg. 0.2 Bkg. 41  
 Efficiency 33% Efficiency 33% Efficiency 25%  
 MDA 220 dpm MDA 220 dpm MDA 220 dpm

Mfg. EBERLINE Mfg. NE.TECH Mfg. NE.TECH  
 Model BC-4 Model ELECTRA Model ELECTRA  
 Serial # BC202 Serial # Serial #  
 Cal Due 12-15-98 Cal Due Cal Due  
 Bkg. 38 Bkg. Bkg.  
 Efficiency 25% Efficiency Efficiency  
 MDA 220 dpm MDA MDA

Survey Type: CONTAMINATION

Building: 904

Location: TENT 10

Purpose: WEEKLY SURVEY

RWP #: 8-19-98

Date: 8-19-98 Time: 0830

RCT: Munoz, [Signature] Emp. #  
 Print name Signature

RCT: [Signature] Emp. #  
 Print name Signature

PRL #: 8-19-98

Comments:

## SURVEY RESULTS

REMOVABLE		DIRECT		REMOVABLE		DIRECT	
ALPHA	BETA	ALPHA	BETA	ALPHA	BETA	ALPHA	BETA
1. 220	2200			23.			
2. 220	2200			24.			
3. 220	2200			25.			
4. 220	2200			26.			
5. 220	2200			27.			
6. 220	2200			28.			
7. 220	2200			29.			
8. 220	2200			30.			
9. 220	2200			31.			
10. 220	2200			32.			
11. 220	2200			33.			
12. 220	2200			34.			
13. 220	2200			35.			
14. 220	2200			36.			
15. 220	2200			37.			
16.				38.			
17.				39.			
18.				40.			
19.				41.			
20.				42.			
21.				43.			
22.				44.			

Date Reviewed: 9/3/98

RS Supervision:

Print Name

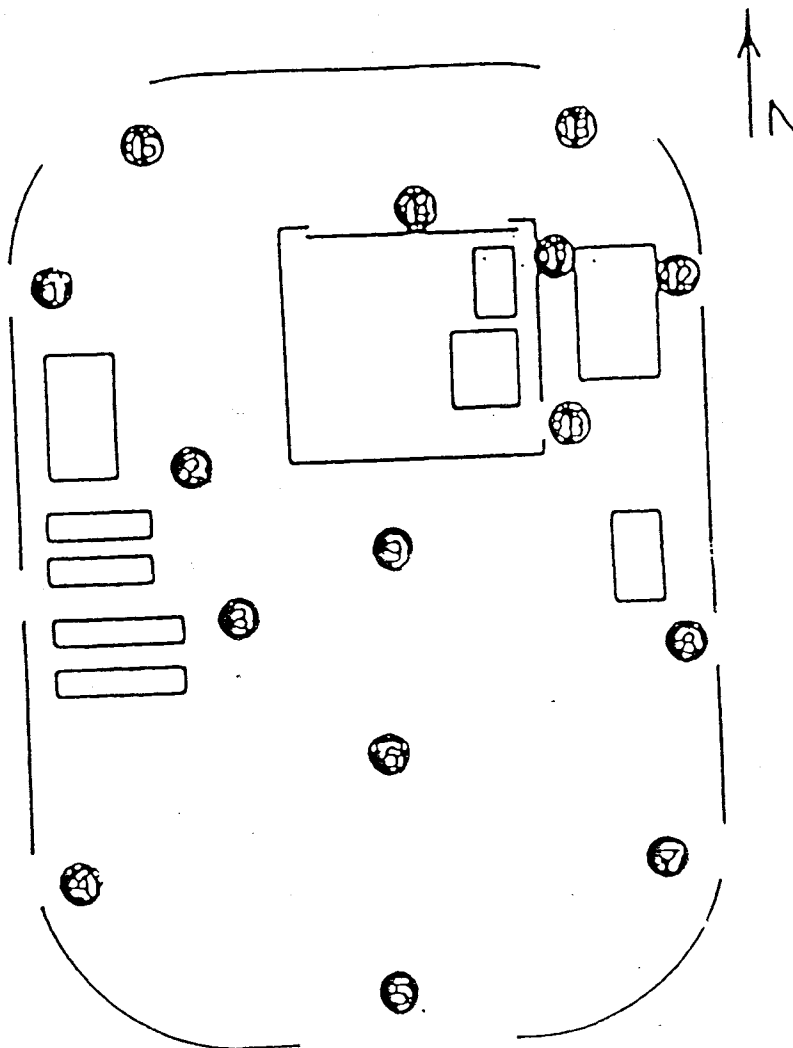
Signature

**ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE**

**RADIOLOGICAL SAFETY**  
Drawing Showing Survey Points

Radiological Operations  
Area or Equipment Drawing Showing Survey Points

Tent 10



# INFORMATION ONLY

Page 1 of 2

RS FORMS 07.02-01

## ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

### INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model SAC-4	Model SAC-4	Model SAC-4
Serial # 795	Serial # 824	Serial # 6704
Cal Due 9-13-98	Cal Due 9-24-98	Cal Due 12-11-98
Bkg. 0.0	Bkg. 0.2	Bkg. 36
Efficiency 33%	Efficiency 33%	Efficiency 25%
MDA 20dpm	MDA 20dpm	MDA 200dpm

Mfg. EBERLINE	Mfg. NE.TECH	Mfg. NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # 6702	Serial #	Serial #
Cal Due 12-15-98	Cal Due	Cal Due
Bkg. 36	Bkg.	Bkg.
Efficiency 25%	Efficiency	Efficiency
MDA 200dpm	MDA	MDA

Survey Type: CONTAMINATION

Building: 904

Location: TENT 10

Purpose: WEEKLY SURVEY

RWP #: 8-27-98

Date: 8-27-98 Time: 0930

RCT: Munoz [Signature]   
 Print name Signature

RCT: 8-27-98   
 Print name Signature Emp. #

PRL #: 8-27-98

Comments: See Page 2 of 2 for Survey map

### SURVEY RESULTS

REMOVABLE		DIRECT		REMOVABLE		DIRECT	
ALPHA	BETA	ALPHA	BETA	ALPHA	BETA	ALPHA	BETA
1.	<20	<200		23.			
2.	<26	<200		24.			
3.	<20	<200		25.			
4.	<20	<200		26.			
5.	<20	<200		27.			
6.	<20	<200		28.			
7.	<20	<200		29.			
8.	<20	<200		30.			
9.	<20	<200		31.			
10.	<20	<200		32.			
11.	<20	<200		33.			
12.	<20	<200		34.			
13.	<20	<200		35.			
14.	<20	<200		36.			
15.	<20	<200		37.			
16.				38.			
17.				39.			
18.				40.			
19.				41.			
20.				42.			
21.				43.			
22.				44.			

Date Reviewed: 9/3/98 RS Supervision: K. G. [Signature] [Signature]

Print Name

Signature

Emp. #

78

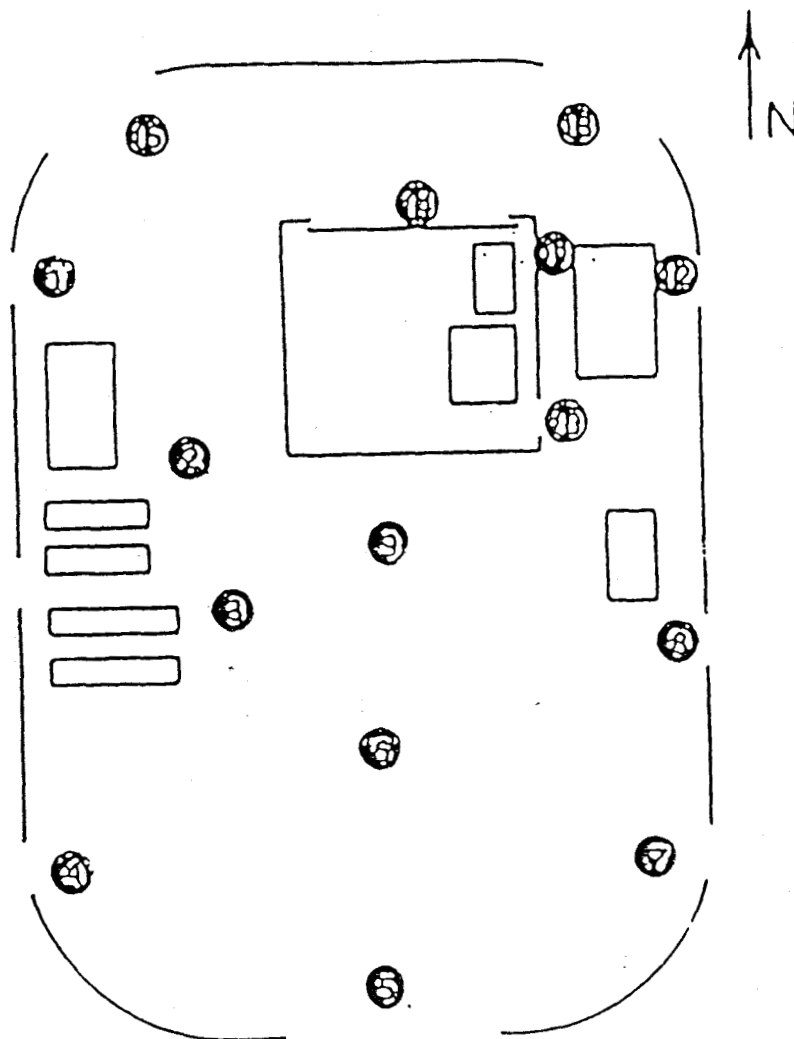
# ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## RADIOLOGICAL SAFETY

### Drawing Showing Survey Points

Radiological Operations  
Area or Equipment Drawing Showing Survey Points

Tent 10



# COPY

Page    of   

RS FORMS 07.02-01

## ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

### INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model SAC-4	Model SAC-4	Model SAC-4
Serial # <u>795</u>	Serial # <u>824</u>	Serial # <u>704</u>
Cal Due <u>9-13-98</u>	Cal Due <u>9-24-98</u>	Cal Due <u>12-11-98</u>
Bkg. <u>0.3</u>	Bkg. <u>0.1</u>	Bkg. <u>37</u>
Efficiency <u>33%</u>	Efficiency <u>33%</u>	Efficiency <u>25%</u>
MDA <u>20 dpm</u>	MDA <u>20 dpm</u>	MDA <u>200 dpm</u>
Mfg. EBERLINE	Mfg. NE.TECH	Mfg. NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # <u>702</u>	Serial # <u>      </u>	Serial # <u>      </u>
Cal Due <u>12-15-98</u>	Cal Due <u>      </u>	Cal Due <u>      </u>
Bkg. <u>39</u>	Bkg. <u>      </u>	Bkg. <u>      </u>
Efficiency <u>25%</u>	Efficiency <u>      </u>	Efficiency <u>      </u>
MDA <u>200 dpm</u>	MDA <u>      </u>	MDA <u>      </u>

### Survey Type: CONTAMINATION

Building: 904  
Location: TENT 10  
Purpose: WEEKLY SURVEY

RWP #:       Date: 9-2-98 Time: 1030

RCT: M.E. VAUGHN 17.2.11 [REDACTED]  
Print name Signature Emp. #

RCT:                       
Print name Signature Emp. #

PRL #:       Comments:       

### SURVEY RESULTS

REMOVABLE		DIRECT		REMOVABLE		DIRECT	
ALPHA	BETA	ALPHA	BETA	ALPHA	BETA	ALPHA	BETA
1. <u>&lt;20</u>	<u>&lt;200</u>			23.			
2.				24.			
3.				25.			
4.				26.			
5.				27.			
6.				28.			
7.				29.			
8.				30.			
9.				31.			
10.				32.			
11.				33.			
12.				34.			
13.				35.			
14.				36.			
15.				37.			
16.				38.			
17.				39.			
18.				40.			
19.				41.			
20.				42.			
21.				43.			
22.				44.			

Date Reviewed: 9/3/98 RS Supervision: K. Gann (and) [REDACTED]

Print Name

Signature



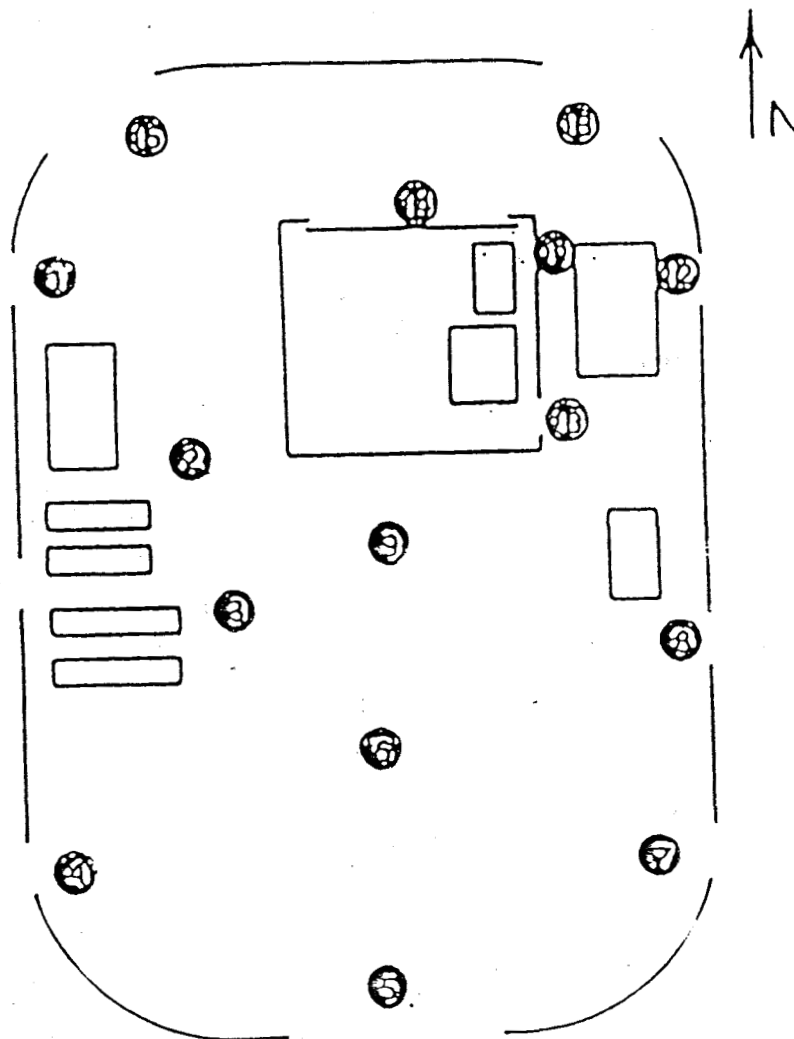
# ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## RADIOLOGICAL SAFETY

### Drawing Showing Survey Points

Radiological Operations  
Area or Equipment Drawing Showing Survey Points

Tent 10



# INFORMATION ONLY

Page 1 of 2

RS FORMS 07.02-01

## ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

### INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model SAC-4	Model SAC-4	Model SAC-4
Serial # <u>755</u>	Serial # <u>824</u>	Serial # <u>824</u>
Cal Due <u>9-13-98</u>	Cal Due <u>9-24-98</u>	Cal Due <u>1-9-99</u>
Bkg. <u>0.1</u>	Bkg. <u>0.0</u>	Bkg. <u>39</u>
Efficiency <u>33%</u>	Efficiency <u>33%</u>	Efficiency <u>25%</u>
MDA <u>20 dpm</u>	MDA <u>20 dpm</u>	MDA <u>200 dpm</u>

Survey Type: CONTAMINATION

Building: 904  
 Location: TENT 10  
 Purpose: WEEKLY SURVEY

RWP #: an 9-9-98

Date: 9-9-98 Time: 0930

Mfg. EBERLINE	Mfg. NE.TECH	Mfg. NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # <u>BC702</u>	Serial # <u>2-2-98</u>	Serial # <u>2-2-98</u>
Cal Due <u>12-15-98</u>	Cal Due <u>2-2-98</u>	Cal Due <u>2-2-98</u>
Bkg. <u>44</u>	Bkg. <u>2.5</u>	Bkg. <u>2.5</u>
Efficiency <u>25%</u>	Efficiency <u>33%</u>	Efficiency <u>33%</u>
MDA <u>200 dpm</u>	MDA <u>200 dpm</u>	MDA <u>200 dpm</u>

RCT: Munoz Munoz [Redacted]  
 Print name Signature Emp. #

RCT: an 9-9-98 1  
 Print name Signature Emp. #

PRL #: an 9-9-98

Comments:

See Survey Map for survey points

### SURVEY RESULTS

REMOVABLE		DIRECT		REMOVABLE		DIRECT	
ALPHA	BETA	ALPHA	BETA	ALPHA	BETA	ALPHA	BETA
1. <u>&lt;20</u>	<u>&lt;200</u>			23. <u>23</u>			
2. <u>&lt;20</u>	<u>&lt;200</u>			24. <u>24</u>			
3. <u>&lt;20</u>	<u>&lt;200</u>			25. <u>25</u>			
4. <u>&lt;20</u>	<u>&lt;200</u>			26. <u>26</u>			
5. <u>&lt;20</u>	<u>&lt;200</u>			27. <u>27</u>			
6. <u>&lt;20</u>	<u>&lt;200</u>			28. <u>28</u>			
7. <u>&lt;20</u>	<u>&lt;200</u>			29. <u>29</u>			
8. <u>&lt;20</u>	<u>&lt;200</u>			30. <u>30</u>			
9. <u>&lt;20</u>	<u>&lt;200</u>			31. <u>31</u>			
10. <u>&lt;20</u>	<u>&lt;200</u>			32. <u>32</u>			
11. <u>&lt;20</u>	<u>&lt;200</u>			33. <u>33</u>			
12. <u>&lt;20</u>	<u>&lt;200</u>			34. <u>34</u>			
13. <u>&lt;20</u>	<u>&lt;200</u>			35. <u>35</u>			
14. <u>&lt;20</u>	<u>&lt;200</u>			36. <u>36</u>			
15. <u>&lt;20</u>	<u>&lt;200</u>			37. <u>37</u>			
16. <u> </u>	<u> </u>			38. <u> </u>			
17. <u> </u>	<u> </u>			39. <u> </u>			
18. <u> </u>	<u> </u>			40. <u> </u>			
19. <u> </u>	<u> </u>			41. <u> </u>			
20. <u> </u>	<u> </u>			42. <u> </u>			
21. <u> </u>	<u> </u>			43. <u> </u>			
22. <u> </u>	<u> </u>			44. <u> </u>			

Date Reviewed: 9/15/98 RS Supervision: J. Ewell

Print Name

Signature

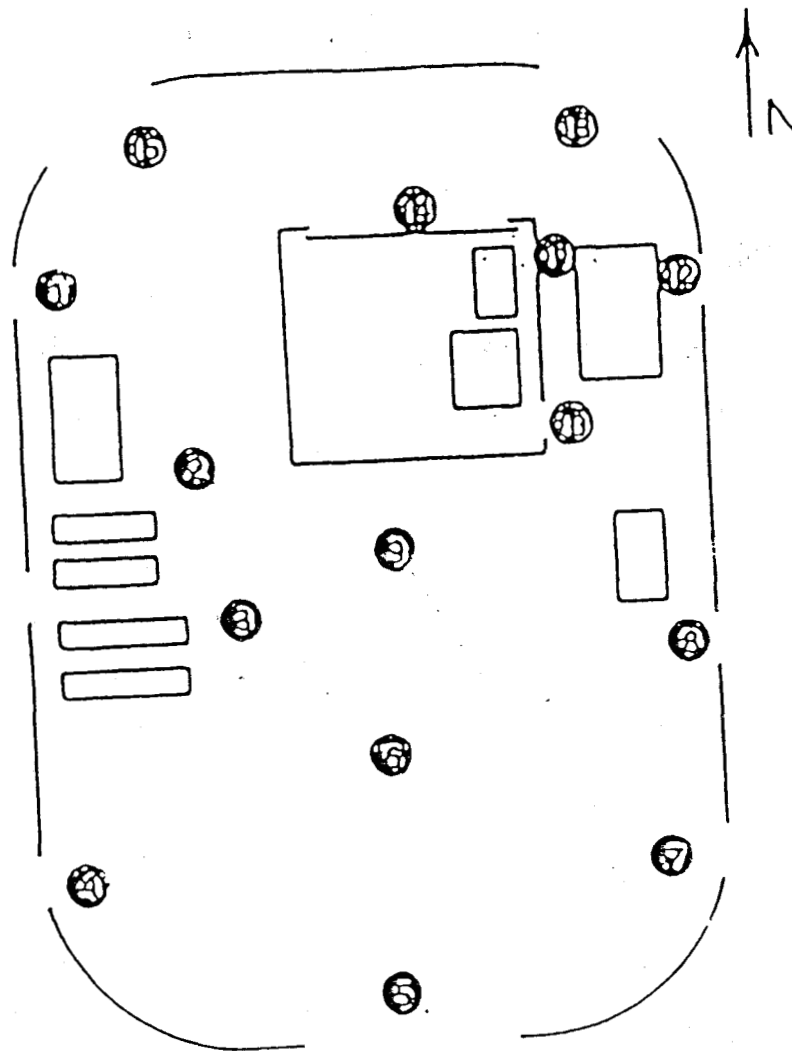
82

**ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE****RADIOLOGICAL SAFETY**

Drawing Showing Survey Points

Radiological Operations  
Area or Equipment Drawing Showing Survey Points

Tent 10



ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model SAC-4	Model SAC-4	Model SAC-4
Serial # 767	Serial # 824	Serial # 838
Cal Due 10-14-98	Cal Due 9-24-98	Cal Due 1-9-99
Bkg. 0.0	Bkg. 0.1	Bkg. 40
Efficiency 33%	Efficiency 33%	Efficiency 25%
MDA 220 dpm	MDA 220 dpm	MDA 220 dpm
Mfg. EBERLINE	Mfg. NE.TECH	Mfg. NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # 702	Serial # 702	Serial # 702
Cal Due 12-15-98	Cal Due 12-15-98	Cal Due 12-15-98
Bkg. 41	Bkg. 41	Bkg. 41
Efficiency 25%	Efficiency 25%	Efficiency 25%
MDA 220 dpm	MDA 220 dpm	MDA 220 dpm

Survey Type: CONTAMINATION

Building: 904

Location: TENT 10

Purpose: WEEKLY SURVEY

RWP #: JH 9-16-98

Date: 9-16-98 Time: 1410

RCT: Harkins L Harkins

Print name Signature Emp. #

RCT: JH 9-16-98

Print name Signature Emp. #

PRL #: \_\_\_\_\_

Comments: JH 9-16-98

SURVEY RESULTS

REMOVABLE		DIRECT		REMOVABLE		DIRECT	
ALPHA	BETA	ALPHA	BETA	ALPHA	BETA	ALPHA	BETA
1. 220	2200			23.			
2. 220	2200			24.			
3. 220	2200			25.			
4. 220	2200			26.			
5. 220	2200			27.			
6. 220	2200			28.			
7. 220	2200			29.			
8. 220	2200			30.			
9. 220	2200			31.			
10. 220	2200			32.			
11. 220	2200			33.			
12. 220	2200			34.			
13. 220	2200			35.			
14. 220	2200			36.			
15. 220	2200			37.			
16.				38.			
17.				39.			
18.				40.			
19.				41.			
20.				42.			
21.				43.			
22.				44.			

Date Reviewed: 9/22/98 RS Supervision: J. Ewell

Print Name Signature Emp. #

84

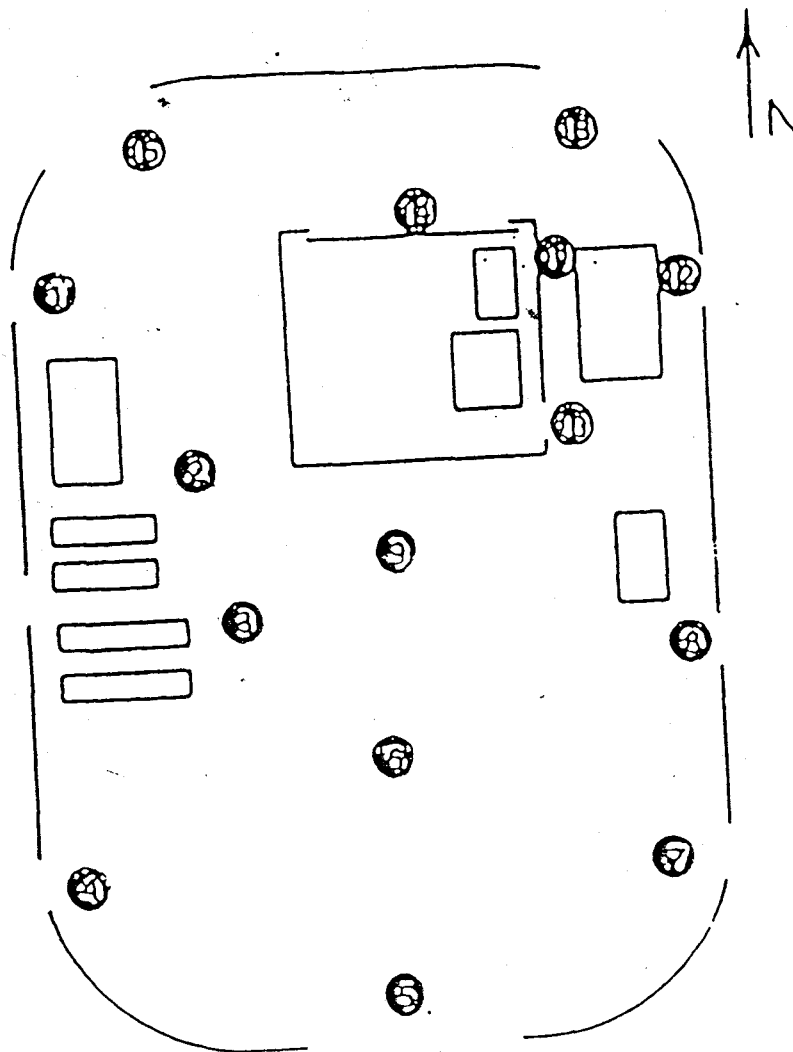
## ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## RADIOLOGICAL SAFETY

Drawing Showing Survey Points

Radiological Operations  
Area or Equipment Drawing Showing Survey Points

Tent 10



## ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## INSTRUMENT DATA

Mfg. EBERLINE Mfg. EBERLINE Mfg. EBERLINE  
 Model SAC-4 Model SAC-4 Model SAC-4  
 Serial # 767 Serial # 795 Serial # 8038  
 Cal Due 10-14-98 Cal Due 3-16-99 Cal Due 1-9-99  
 Bkg. 0.1 Bkg. 0.2 Bkg. 39  
 Efficiency 33% Efficiency 33% Efficiency 25%  
 MDA 20dpm MDA 20dpm MDA 200dpm

Mfg. EBERLINE Mfg. NE.TECH Mfg. NE.TECH  
 Model BC-4 Model ELECTRA Model ELECTRA  
 Serial # BC702 Serial # Serial #  
 Cal Due 12-15-98 Cal Due Cal Due  
 Bkg. 38 Bkg. Bkg.  
 Efficiency 25% Efficiency Efficiency  
 MDA 200dpm MDA MDA

## Survey Type: CONTAMINATION

Building: 904

Location: TENT 10

Purpose: WEEKLY SURVEY

RWP #: 9-23-98

Date: 9-23-98 Time: 0900

RCT: Munoz Signature

RCT: Print name Signature Emp. #

PRL #: 9-23-98

Comments:

See Map Page 2

## SURVEY RESULTS

REMOVABLE		DIRECT		REMOVABLE		DIRECT	
ALPHA	BETA	ALPHA	BETA	ALPHA	BETA	ALPHA	BETA
1. <20	<200			23.			
2. <20	<200			24.			
3. <20	<200			25.			
4. <20	<200			26.			
5. <20	<200			27.			
6. <20	<200			28.			
7. <20	<200			29.			
8. <20	<200			30.			
9. <20	<200			31.			
10. <20	<200			32.			
11. <20	<200			33.			
12. <20	<200			34.			
13. <20	<200			35.			
14. <20	<200			36.			
15. <20	<200			37.			
16.				38.			
17.				39.			
18.				40.			
19.				41.			
20.				42.			
21.				43.			
22.				44.			

Date Reviewed: 10/5/98

RS Supervision:

J. Ewell

Print Name

Signature

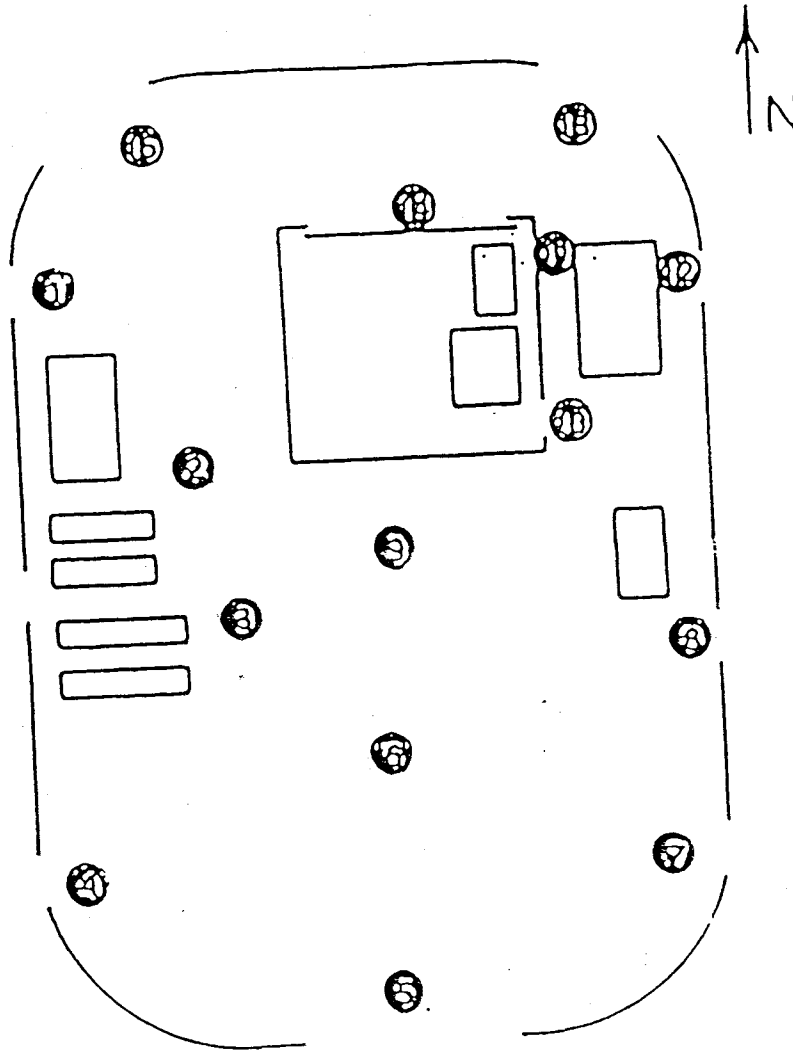
# ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## RADIOLOGICAL SAFETY

Drawing Showing Survey Points

Radiological Operations  
Area or Equipment Drawing Showing Survey Points

Tent 10



## INFORMATION ON

## ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model SAC-4	Model SAC-4	Model SAC-4
Serial # <u>767</u>	Serial # <u>795</u>	Serial # <u>BC838</u>
Cal Due <u>10-14-98</u>	Cal Due <u>3-16-99</u>	Cal Due <u>1-9-99</u>
Bkg. <u>0.1</u>	Bkg. <u>0.7</u>	Bkg. <u>43</u>
Efficiency <u>33%</u>	Efficiency <u>33%</u>	Efficiency <u>25%</u>
MDA <u>20dpm</u>	MDA <u>20dpm</u>	MDA <u>200dpm</u>

Mfg. EBERLINE	Mfg. NE.TECH	Mfg. NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # <u>BC702</u>	Serial # <u>BC3048</u>	Serial # <u>BC3048</u>
Cal Due <u>12-15-98</u>	Cal Due <u>9-30-98</u>	Cal Due <u>9-30-98</u>
Bkg. <u>36</u>	Bkg. <u>36</u>	Bkg. <u>36</u>
Efficiency <u>25%</u>	Efficiency <u>25%</u>	Efficiency <u>25%</u>
MDA <u>200dpm</u>	MDA <u>200dpm</u>	MDA <u>200dpm</u>

Survey Type: CONTAMINATIONBuilding: 904Location: TENT 10Purpose: WEEKLY SURVEYRWP #: 9-30-98Date: 9-30-98 Time: 0900
 RCT: MUNOZ [Signature] [Redacted]  
 Print name Signature Emp. #

 RCT: 9-30-98 [Signature] [Redacted]  
 Print name Signature Emp. #
PRL #: 9-30-98

Comments:

See Survey Map Pg. 2

## SURVEY RESULTS

REMOVABLE		DIRECT		REMOVABLE		DIRECT	
ALPHA	BETA	ALPHA	BETA	ALPHA	BETA	ALPHA	BETA
1.	<u>&lt;20</u>			23.			
2.	<u>&lt;20</u>			24.			
3.	<u>&lt;20</u>			25.			
4.	<u>&lt;20</u>			26.			
5.	<u>&lt;20</u>			27.			
6.	<u>&lt;20</u>			28.			
7.	<u>&lt;20</u>			29.			
8.	<u>&lt;20</u>			30.			
9.	<u>&lt;20</u>			31.			
10.	<u>&lt;20</u>			32.			
11.	<u>&lt;20</u>			33.			
12.	<u>&lt;20</u>			34.			
13.	<u>&lt;20</u>			35.			
14.	<u>&lt;20</u>			36.			
15.	<u>&lt;20</u>			37.			
16.				38.			
17.				39.			
18.				40.			
19.				41.			
20.				42.			
21.				43.			
22.				44.			

Date Reviewed: 10/5/98

RS Supervision:

J. Euell  
Print Name[Signature]  
Signature

88

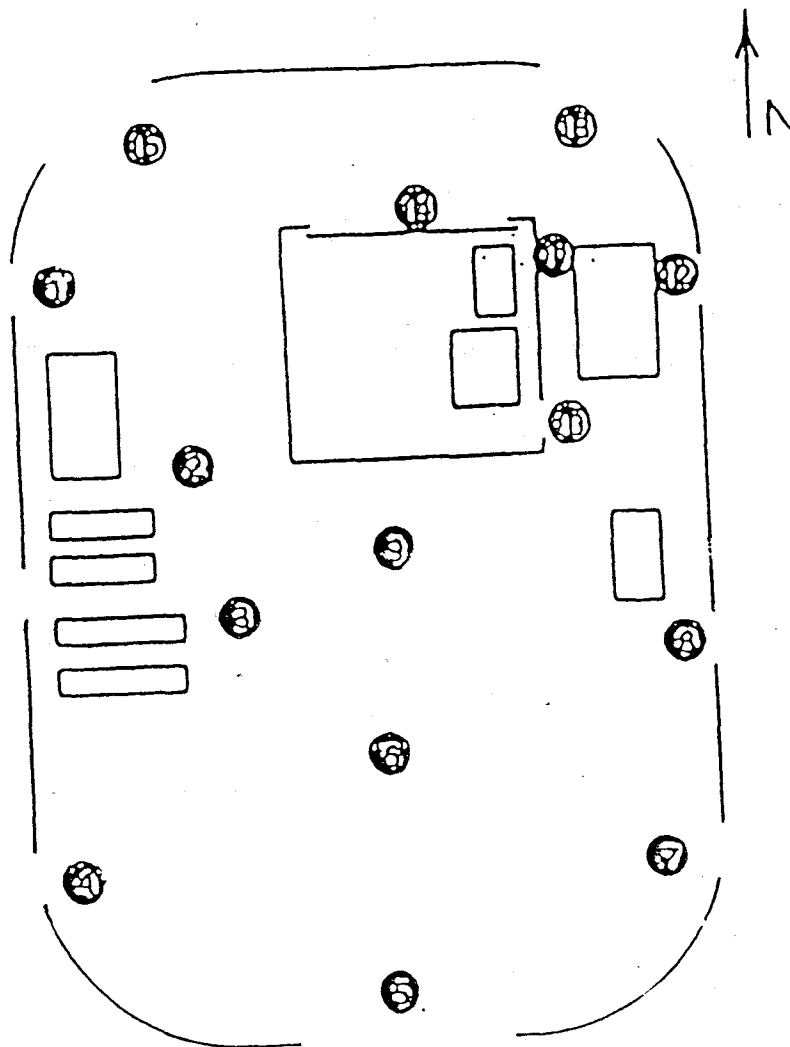


**ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE**

**RADIOLOGICAL SAFETY**  
Drawing Showing Survey Points

Radiological Operations  
Area or Equipment Drawing Showing Survey Points

Tent 10



# INFORMATION ONLY

RS FORMS 07.02-01

## ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

### INSTRUMENT DATA

Mfg. EBERLINE Mfg. EBERLINE Mfg. EBERLINE  
 Model SAC-4 Model SAC-4 Model SAC-4  
 Serial # 1050 Serial # 1199 Serial # 914  
 Cal Due 2-26-99 Cal Due 2-14-99 Cal Due 2-4-99  
 Bkg. 0.0 Bkg. 0.6 Bkg. 43  
 Efficiency 33% Efficiency 33% Efficiency 25%  
 MDA <20 dpm MDA <20 dpm MDA <200 dpm

Survey Type: CONTAMINATION

Building: 904

Location: TENT 10

Purpose: WEEKLY SURVEY

RWP #: 24 10-7-98

Date: 10-7-98 Time: 14:30

Mfg. EBERLINE Mfg. NE.TECH Mfg. NE.TECH  
 Model BC-4 Model ELECTRA Model ELECTRA  
 Serial # 706 Serial # 1058 Serial # 110-7-98  
 Cal Due 12-22-98 Cal Due 12-22-98 Cal Due 12-22-98  
 Bkg. 38 Bkg. 38 Bkg. 38  
 Efficiency 25% Efficiency 25% Efficiency 25%  
 MDA <200 dpm MDA <200 dpm MDA <200 dpm

RCT: Harkins Han

Print name

RCT: 24 10-7-98

Print name

Signature

Emp. #

PRL

Comments: 10-7-98

### SURVEY RESULTS

REMOVABLE		DIRECT		REMOVABLE		DIRECT	
ALPHA	BETA	ALPHA	BETA	ALPHA	BETA	ALPHA	BETA
1. <20	<200			23.			
2. <20	<200			24.			
3. <20	<200			25.			
4. <20	<200			26.			
5. <20	<200			27.			
6. <20	<200			28.			
7. <20	<200			29.			
8. <20	<200			30.			
9. <20	<200			31.			
10. <20	<200			32.			
11. <20	<200			33.			
12. <20	<200			34.			
13. <20	<200			35.			
14. <20	<200			36.			
15. <20	<200			37.			
16.				38.			
17.				39.			
18.				40.			
19.				41.			
20.				42.			
21.				43.			
22.				44.			

Date Reviewed: 10/2/98

RS Supervision: J. Ewell

Print Name

Signature

Emp. #

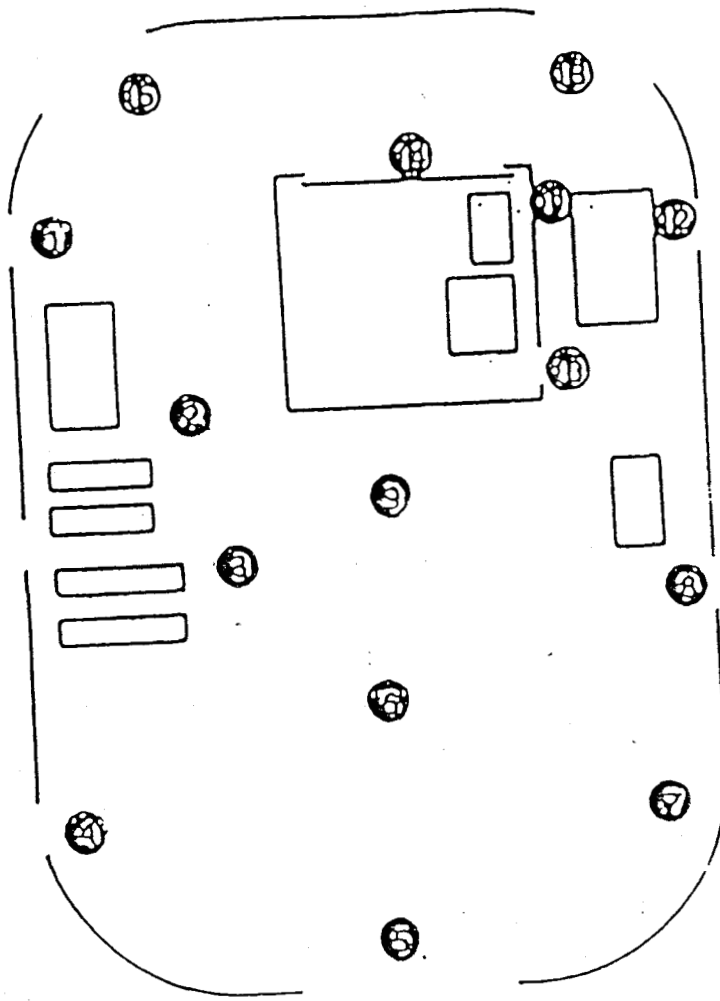
# ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## RADIOLOGICAL SAFETY

Drawing Showing Survey Points

Radiological Operations  
Area or Equipment Drawing Showing Survey Points

Tent 10



# ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## INSTRUMENT DATA

10-14-98

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model SAC-4	Model SAC-4	Model SAC-4
Serial # 824	Serial # 795	Serial # 838
Cal Due 3-21-99	Cal Due 3-16-99	Cal Due 1-9-99
Bkg. 0.0 cpm	Bkg. 0.1 cpm	Bkg. 40 cpm
Efficiency 33	Efficiency 33	Efficiency 25
MDA 20 dpm	MDA 26 dpm	MDA 267 dpm

**Survey Type: CONTAMINATION**

Building: 904

Location: TENT 10

Purpose: WEEKLY SURVEY

RWP #:

Date: 10-14-98 Time: 1:34/5

RCT: P Everich / P Everich  
 Print name Signature Emp. #

RCT: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
 Print name Signature Emp. #

Mfg. EBERLINE	Mfg. NE.TECH	Mfg. NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # <u>702</u>	Serial # _____	Serial # _____
Cal Due <u>12-15-98</u>	Cal Due _____	Cal Due _____
Bkg. <u>42 cpm</u>	Bkg. _____	Bkg. _____
Efficiency <u>.25</u>	Efficiency _____	Efficiency _____
MDA <u>200 dpm</u>	MDA _____	MDA _____

PRL # : \_\_\_\_\_

**Comments:**

## SURVEY RESULTS

[illegible]

Date Reviewed: 6/19/98

### RS Supervision:

Print Name \_\_\_\_\_

Signature \_\_\_\_\_

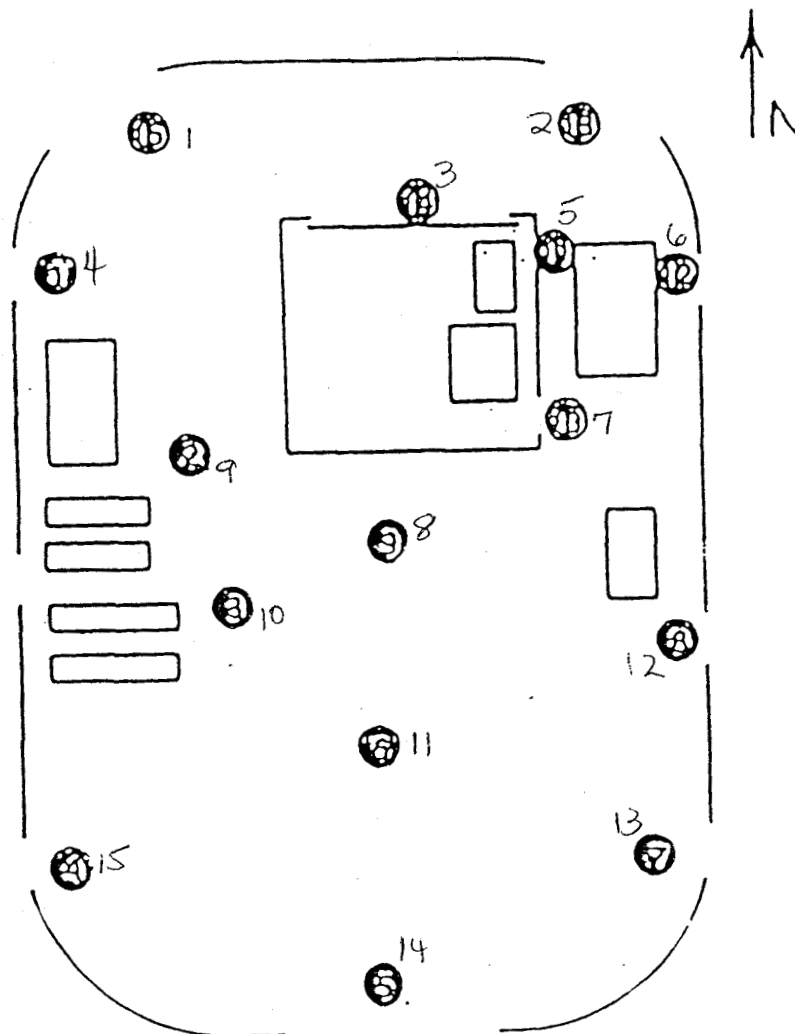
# ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## RADIOLOGICAL SAFETY

Drawing Showing Survey Points

Radiological Operations  
Area or Equipment Drawing Showing Survey Points

Tent 10



# INFORMATION ONLY

## BUCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## INSTRUMENT DATA

10-19-98

Mfg. EBERLINE Mfg. EBERLINE Mfg. EBERLINE  
 Model SAC-4 Model SAC-4 Model SAC-4  
 Serial # 824 Serial # 795 Serial # 838  
 Cal Due 3-21-99 Cal Due 3-16-99 Cal Due 1-9-99  
 Bkg. 0.0cpm Bkg. 0.0cpm Bkg. 41cpm  
 Efficiency .33 Efficiency .33 Efficiency .25  
 MDA 20dpm MDA 20dpm MDA 200dpm

Survey Type: CONTAMINATION

Building: 904

Location: TENT 10

Purpose: WEEKLY SURVEY

RWP #:

Date: 10-19-98

Time: 1340

RCT:

Print name

Signature

Emp. #

RCT:

Print name

Signature

Emp. #

Mfg. EBERLINE Mfg. NE.TECH Mfg. NE.TECH  
 Model BC-4 Model ELECTRA Model ELECTRA  
 Serial # 702 Serial # Serial #  
 Cal Due 12-15-98 Cal Due Cal Due  
 Bkg. 36cpm Bkg. Bkg.  
 Efficiency .25 Efficiency Efficiency  
 MDA 200dpm MDA MDA

PRL #:

Comments:

## SURVEY RESULTS

REMOVABLE		DIRECT		REMOVABLE		DIRECT	
ALPHA	BETA	ALPHA	BETA	ALPHA	BETA	ALPHA	BETA
1. < 20	< 200						
2. < 20	< 200						
3. < 20	< 200						
4. < 20	< 200						
5. < 20	< 200						
6. < 20	< 200						
7. < 20	< 200						
8. < 20	< 200						
9. < 20	< 200						
10. < 20	< 200						
11. < 20	< 200						
12. < 20	< 200						
13. < 20	< 200						
14. < 20	< 200						
15. < 20	< 200	<					
16.							
17.							
18.							
19.							
20.							
21.							
22.							

Date Reviewed: 10/23/98 RS Supervision: J. Ewell

Print Name

Signature

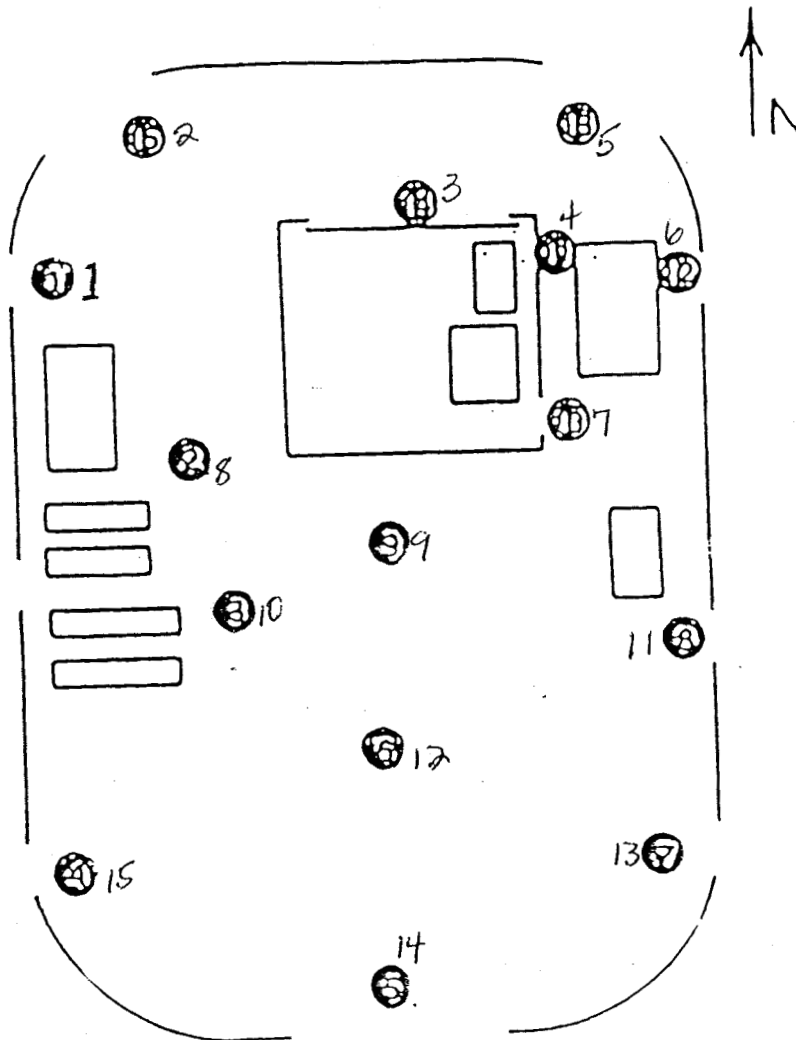
**ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE**

**RADIOLOGICAL SAFETY**

Drawing Showing Survey Points

Radiological Operations  
Area or Equipment Drawing Showing Survey Points

Tent 10



# ROCKY FLAT ENVIRONMENTAL TECHNOLOGY SITE

## INFORMATION ONLY

### INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model SAC-4	Model SAC-4	Model <del>SAC</del> -4
Serial # <u>824</u>	Serial # <u>795</u>	Serial # <u>838</u>
Cal Due <u>3-21-99</u>	Cal Due <u>3-16-99</u>	Cal Due <u>1-9-99</u>
Bkg. <u>G.1</u>	Bkg. <u>G.2</u>	Bkg. <u>40</u>
Efficiency <u>.33</u>	Efficiency <u>.33</u>	Efficiency <u>.25</u>
MDA <u>20 dpm</u>	MDA <u>20 dpm</u>	MDA <u>200 dpm</u>

Mfg. EBERLINE	Mfg. NE.TECH	Mfg. NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # <u>702</u>	Serial # _____	Serial # _____
Cal Due <u>12-15-98</u>	Cal Due _____	Cal Due _____
Bkg. <u>40</u>	Bkg. _____	Bkg. _____
Efficiency <u>.25</u>	Efficiency _____	Efficiency _____
MDA <u>200 dpm</u>	MDA _____	MDA _____

Survey Type: CONTAMINATIONBuilding: 904Location: TENT 10Purpose: WEEKLY SURVEYRWP #: N/ADate: 10-29-98 Time: 0930
 RCT: P. Everich 1 P. C. [Signature]  
 Print name Signature

 RCT: R. Schen [Signature]  
 Print name Signature

PRL #: \_\_\_\_\_

Comments: \_\_\_\_\_

### SURVEY RESULTS

REMOVABLE		DIRECT		REMOVABLE		DIRECT	
ALPHA	BETA	ALPHA	BETA	ALPHA	BETA	ALPHA	BETA
1. <u>&lt;20</u>	<u>&lt;200</u>			23.			
2. <u>&lt;20</u>	<u>&lt;200</u>			24.			
3. <u>&lt;20</u>	<u>&lt;200</u>			25.			
4. <u>&lt;20</u>	<u>&lt;200</u>			26.			
5. <u>&lt;20</u>	<u>&lt;200</u>			27.			
6. <u>&lt;20</u>	<u>&lt;200</u>			28.			
7. <u>&lt;20</u>	<u>&lt;200</u>			29.			
8. <u>&lt;20</u>	<u>&lt;200</u>			30.			
9. <u>&lt;20</u>	<u>&lt;200</u>			31.			
10. <u>&lt;20</u>	<u>&lt;200</u>			32.			
11. <u>&lt;20</u>	<u>&lt;200</u>			33.			
12. <u>&lt;20</u>	<u>&lt;200</u>			34.			
13. <u>&lt;20</u>	<u>&lt;200</u>			35.			
14. <u>&lt;20</u>	<u>&lt;200</u>			36.			
15. <u>&lt;20</u>	<u>&lt;200</u>			37.			
16.				38.			
17.				39.			
18.				40.			
19.				41.			
20.				42.			
21.				43.			
22.				44.			

Date Reviewed: 96RS Supervision: 8

Print Name

Signature

Emp. #



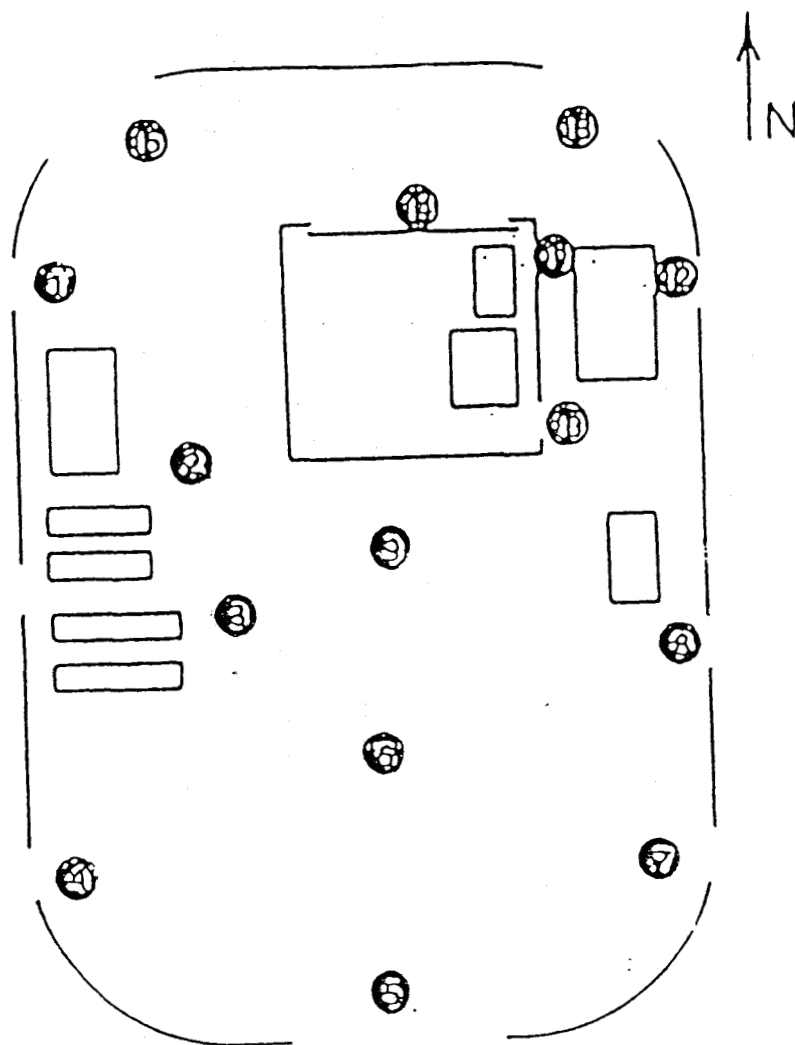
ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

Radlological Operations  
Area or Equipment Drawing Showing Survey Points

Tent 10



## INFORMATION ONLY

RS FORMS 07.02-01

## ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## INSTRUMENT DATA

Mfg. EBERLINE Mfg. EBERLINE Mfg. EBERLINE  
 Model SAC-4 Model SAC-4 Model SAC-4  
 Serial # 824 Serial # 795 Serial # 916  
 Cal Due 3-21-99 Cal Due 3-16-99 Cal Due 3-16-99  
 Bkg. 0.1 Bkg. 0.2 Bkg. 43  
 Efficiency 33% Efficiency 33% Efficiency 25%  
 MDA 20 MDA 20 MDA 200

Survey Type: CONTAMINATION

Building: 904

Location: TENT 10

Purpose: WEEKLY SURVEY

RWP #:

Date: 11-4-98 Time: 1400

RCT: Rick Miller

Print name

Rick Miller

Signature

RCT:

Print name

Signature

Emp. #

Mfg. EBERLINE Mfg. NE.TECH Mfg. NE.TECH  
 Model BC-4 Model ELECTRA Model ELECTRA  
 Serial # 838 Serial # Serial #  
 Cal Due 1-9-99 Cal Due Cal Due  
 Bkg. 36 Bkg. Bkg.  
 Efficiency 25% Efficiency Efficiency  
 MDA 200 MDA MDA

PRL #:

Comments:

## SURVEY RESULTS

REMOVABLE		DIRECT		REMOVABLE		DIRECT	
ALPHA	BETA	ALPHA	BETA	ALPHA	BETA	ALPHA	BETA
1. < 20	< 200			23.1			
2. < 20	< 200			24.			
3. < 20	< 200			25.			
4. < 20	< 200			26.			
5. < 20	< 200			27.			
6. < 20	< 200			28.			
7. < 20	< 200			29.			
8. < 20	< 200			30.			
9. < 20	< 200			31.			
10. < 20	< 200			32.			
11. < 20	< 200			33.			
12. < 20	< 200			34.			
13. < 20	< 200			35.			
14. < 20	< 200			36.			
15. < 20	< 200			37.			
16.				38.			
17.				39.			
18.				40.			
19.				41.			
20.				42.			
21.				43.			
22.				44.			

Date Reviewed: 11/17/98

RS Supervision:

Print Name

Signature

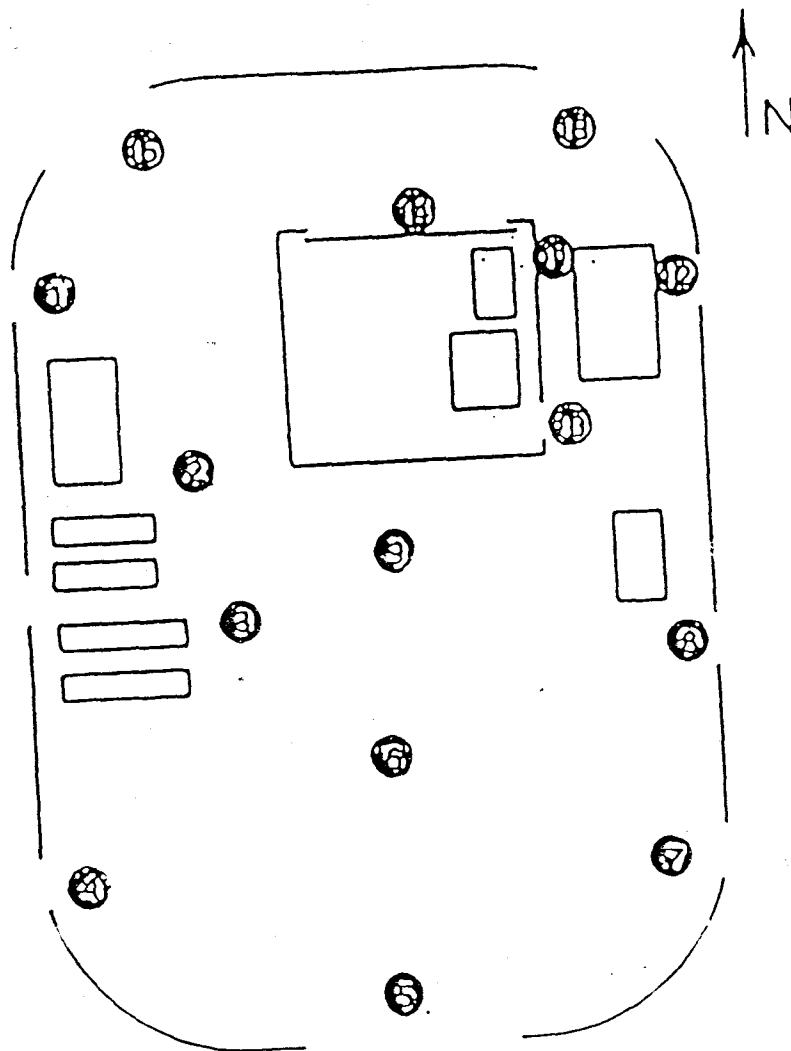
## ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## RADIOLOGICAL SAFETY

Drawing Showing Survey Points

Radiological Operations  
Area or Equipment Drawing Showing Survey Points

Tent 10



## ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model SAC-4	Model SAC-4	Model SAC-4
Serial # <u>824</u>	Serial # <u>795</u>	Serial # <u>824</u>
Cal Due <u>3-24-99</u>	Cal Due <u>3-16-99</u>	Cal Due <u>3-16-99</u>
Bkg. <u>0.0</u>	Bkg. <u>0.0</u>	Bkg. <u>41</u>
Efficiency <u>33%</u>	Efficiency <u>33%</u>	Efficiency <u>25%</u>
MDA <u>200 dpm</u>	MDA <u>200 dpm</u>	MDA <u>200 dpm</u>

Mfg. EBERLINE	Mfg. NE.TECH	Mfg. NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # <u>BC 838</u>	Serial # <u>11-11-98</u>	Serial # <u>11-11-98</u>
Cal Due <u>1-9-99</u>	Cal Due <u>11-11-98</u>	Cal Due <u>11-11-98</u>
Bkg. <u>42</u>	Bkg. <u>11-11-98</u>	Bkg. <u>11-11-98</u>
Efficiency <u>25%</u>	Efficiency <u>11-11-98</u>	Efficiency <u>11-11-98</u>
MDA <u>200 dpm</u>	MDA <u>11-11-98</u>	MDA <u>11-11-98</u>

Survey Type: CONTAMINATIONBuilding: 904Location: TENT 10Purpose: WEEKLY SURVEYRWP #: 11-11-98Date: 11-16-98Time: 1300RCT: Munoz

Print name

Signature

Emp. #

RCT: 11-11-98

Print name

Signature

Emp. #

PRL #: 11-11-98

Comments:

## SURVEY RESULTS

REMOVABLE		DIRECT		REMOVABLE		DIRECT	
ALPHA	BETA	ALPHA	BETA	ALPHA	BETA	ALPHA	BETA
1. <u>220</u>	<u>2200</u>	<u>11-11-98</u>	<u>11-11-98</u>	23.			
2. <u>220</u>	<u>2200</u>			24.			
3. <u>220</u>	<u>2200</u>			25.			
4. <u>220</u>	<u>2200</u>			26.			
5. <u>220</u>	<u>2200</u>			27.			
6. <u>220</u>	<u>2200</u>			28.			
7. <u>220</u>	<u>2200</u>			29.			
8. <u>220</u>	<u>2200</u>			30.			
9. <u>220</u>	<u>2200</u>			31.			
10. <u>220</u>	<u>2200</u>			32.			
11. <u>220</u>	<u>2200</u>			33.			
12. <u>220</u>	<u>2200</u>			34.			
13. <u>220</u>	<u>2200</u>			35.			
14. <u>220</u>	<u>2200</u>			36.			
15. <u>220</u>	<u>2200</u>			37.			
16.				38.			
17.				39.			
18.				40.			
19.				41.			
20.				42.			
21.				43.			
22.				44.			

Date Reviewed: 11/17/98RS Supervision: J. Ewell

Print Name

Signature

Emp. #

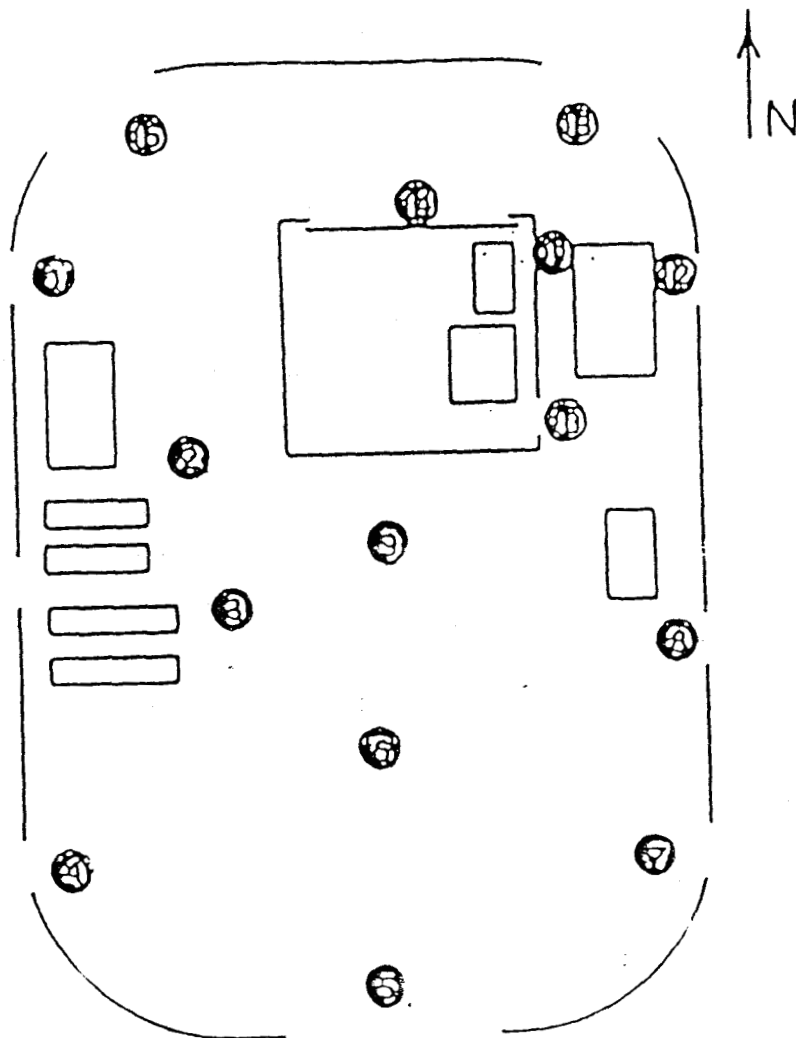
**ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE**

**RADIOLOGICAL SAFETY**

Drawing Showing Survey Points

Radiological Operations  
Area or Equipment Drawing Showing Survey Points

Tent 10



## ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model SAC-4	Model SAC-4	Model SAC-4
Serial # 824	Serial # 795	Serial # 916
Cal Due 3-21-99	Cal Due 3-16-99	Cal Due 3-16-99
Bkg. 0.0	Bkg. 0.0	Bkg. 43
Efficiency 33%	Efficiency 33%	Efficiency 25%
MDA 220	MDA 220	MDA 2200

Mfg. EBERLINE	Mfg. NE. TECH	Mfg. NE. TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # 838	Serial #	Serial #
Cal Due 7-9-99	Cal Due	Cal Due
Bkg. 39	Bkg.	Bkg.
Efficiency 25%	Efficiency	Efficiency
MDA 2200	MDA	MDA

Survey Type: CONTAMINATION

Building: 904

Location: TENT 10

Purpose: WEEKLY SURVEY

RWP #:

Date: 11-19-98

Time: 1100

RCT: Munoz, [Signature]

Print name

Signature

11-19-98

RCT:

Print name

Signature

Emp. #

PRL #:

Comments:

## SURVEY RESULTS

REMOVABLE		DIRECT		REMOVABLE		DIRECT	
ALPHA	BETA	ALPHA	BETA	ALPHA	BETA	ALPHA	BETA
1. 220	2200			23.			
2. 220	2200			24.			
3. 220	2200			25.			
4. 220	2200			26.			
5. 220	2200			27.			
6. 220	2200			28.			
7. 220	2200			29.			
8. 220	2200			30.			
9. 220	2200			31.			
10. 220	2200			32.			
11. 220	2200			33.			
12. 220	2200			34.			
13. 220	2200			35.			
14. 220	2200			36.			
15. 220	2200			37.			
16.				38.			
17.				39.			
18.				40.			
19.				41.			
20.				42.			
21.				43.			
22.				44.			

Date Reviewed: 11/19/98

RS Supervision:

J. Ewell

Print Name

Signature

102

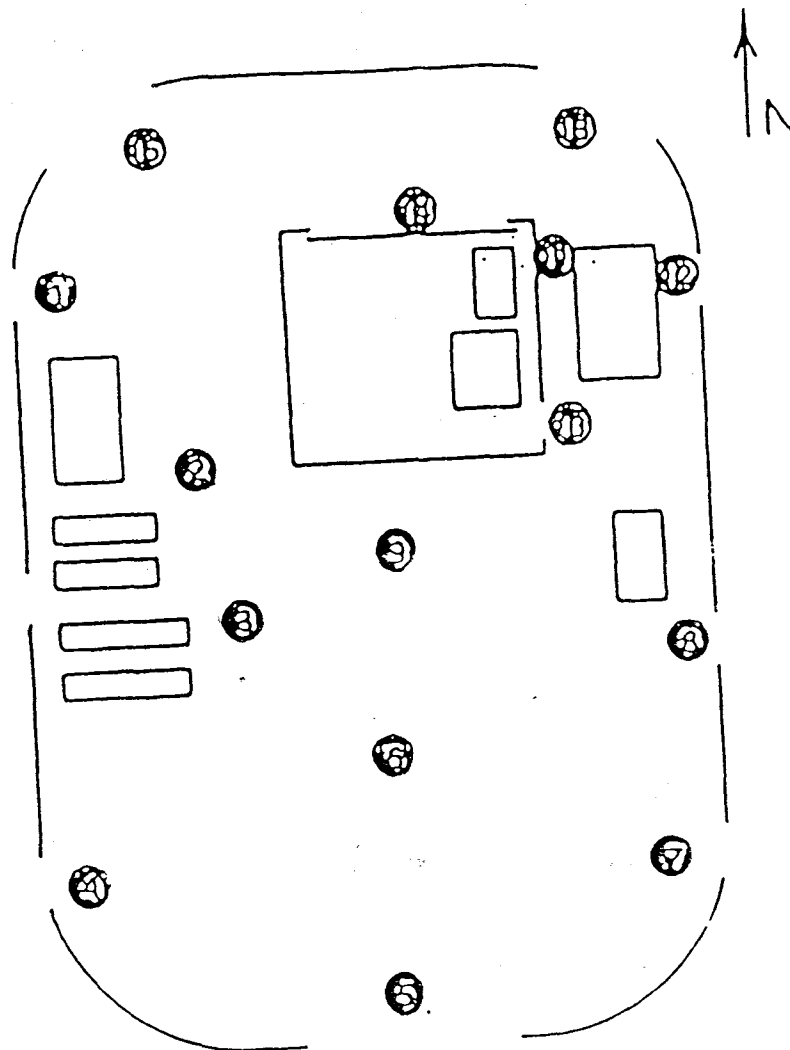
## ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## RADIOLOGICAL SAFETY

Drawing Showing Survey Points

Radiological Operations  
Area or Equipment Drawing Showing Survey Points

Tent 10



**INFORMATION ONLY**

RS FORMS 07.02-01

**ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE****INSTRUMENT DATA**

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model SAC-4	Model SAC-4	Model SAC-4
Serial # <u>824</u>	Serial # <u>795</u>	Serial # <u>916</u>
Cal Due <u>3-21-99</u>	Cal Due <u>0-03-16-98</u>	Cal Due <u>3-16-98</u>
Bkg. <u>0.1</u>	Bkg. <u>0.0</u>	Bkg. <u>4.3</u>
Efficiency <u>33%</u>	Efficiency <u>33%</u>	Efficiency <u>25%</u>
MDA <u>220</u>	MDA <u>220</u>	MDA <u>2200</u>

Mfg. EBERLINE	Mfg. NE.TECH	Mfg. NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # <u>P38</u>	Serial # _____	Serial # _____
Cal Due <u>1-9-99</u>	Cal Due _____	Cal Due _____
Bkg. <u>37</u>	Bkg. _____	Bkg. _____
Efficiency <u>25%</u>	Efficiency _____	Efficiency _____
MDA <u>2200</u>	MDA _____	MDA _____

**Survey Type: CONTAMINATION**

Building: 904  
 Location: TENT 10  
 Purpose: WEEKLY SURVEY

RWP #: \_\_\_\_\_

Date: 11-23-98 Time: 1030

RCT: M. J. H. 2 | [Signature] | [Redacted]  
 Print name Signature Emp. #

RCT: 1 | [Signature] | [Redacted]  
 Print name Signature Emp. #

PRL #: \_\_\_\_\_

Comments: \_\_\_\_\_

**SURVEY RESULTS**

REMOVABLE		DIRECT		REMOVABLE		DIRECT	
ALPHA	BETA	ALPHA	BETA	ALPHA	BETA	ALPHA	BETA
1.	<u>220</u>			23.			
2.	<u>220</u>			24.			
3.	<u>220</u>			25.			
4.	<u>220</u>			26.			
5.	<u>220</u>			27.			
6.	<u>220</u>			28.			
7.	<u>220</u>			29.			
8.	<u>220</u>			30.			
9.	<u>220</u>			31.			
10.	<u>220</u>			32.			
11.	<u>220</u>			33.			
12.	<u>220</u>			34.			
13.	<u>220</u>			35.			
14.	<u>220</u>			36.			
15.	<u>220</u>			37.			
16.	<u>220</u>			38.			
17.	<u>220</u>			39.			
18.	<u>220</u>			40.			
19.				41.			
20.				42.			
21.				43.			
22.				44.			

Date Reviewed: 11/30/98 RS Supervision: [Signature]

Print Name

Signature

Emp. #

104



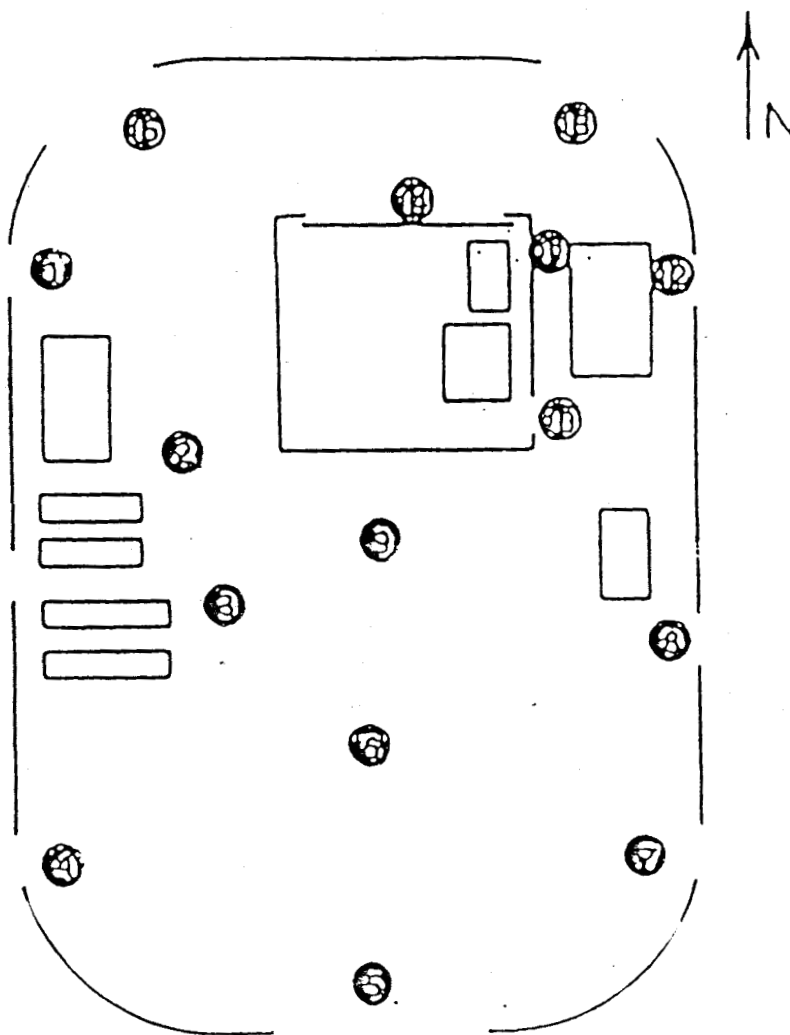
**ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE**

**RADIOLOGICAL SAFETY**

Drawing Showing Survey Points

Radlological Operations  
Area or Equipment Drawing Showing Survey Points

Tent 10



## **Appendix E.2**

### **Pad 904 Tent 10 RLC Radiological Data**



## **Appendix E.2.1**

### **Pad 904 Tent 10 RLC Radiological Data**

#### **Radiological Surveys**



# ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## INSRUMENT DATA

Mfg. Eberline Mfg. Eberline Mfg. Eberline  
 Model SAC-4 Model SAC-4 Model BC-4  
 Serial# 1042 Serial# 797 Serial# BC922  
 Cal Due 11/15/99 Cal Due 10/26/99 Cal Due 7-27-99  
 Bkg. 0.0 Bkg. 0.0 Bkg. 36  
 Efficiency 33% Efficiency 33% Efficiency 25%  
 MDA 20 dpm MDA 20 dpm MDA 200 dpm

Mfg. Eberline Mfg. N.E. Tech Mfg.   
 Model BC-4 Model Electra Model   
 Serial# BC914 Serial# 1545 Serial#   
 Cal Due 8-9-99 Cal Due 11-19-99 Cal Due   
 Bkg. 360 Bkg. 13543 Bkg.   
 Efficiency 25% Efficiency 133.1% Efficiency   
 MDA 200 dpm MDA 1336 MDA

Survey Type: CONTINUATION  
 Building: 904 PAD  
 Location: TENT 10 PERMACON OUTSIDE  
 Purpose: FOR WORK PKG # T0100346

RWP #: JH 6-4-99

Date: 6-4-99 Time: 13:30

RCT: HANKINS J JH   
 Print name Sign

PRL #: JH 6-4-99  
 Comments: WORK PKG # T0100346

JH 6-4-99

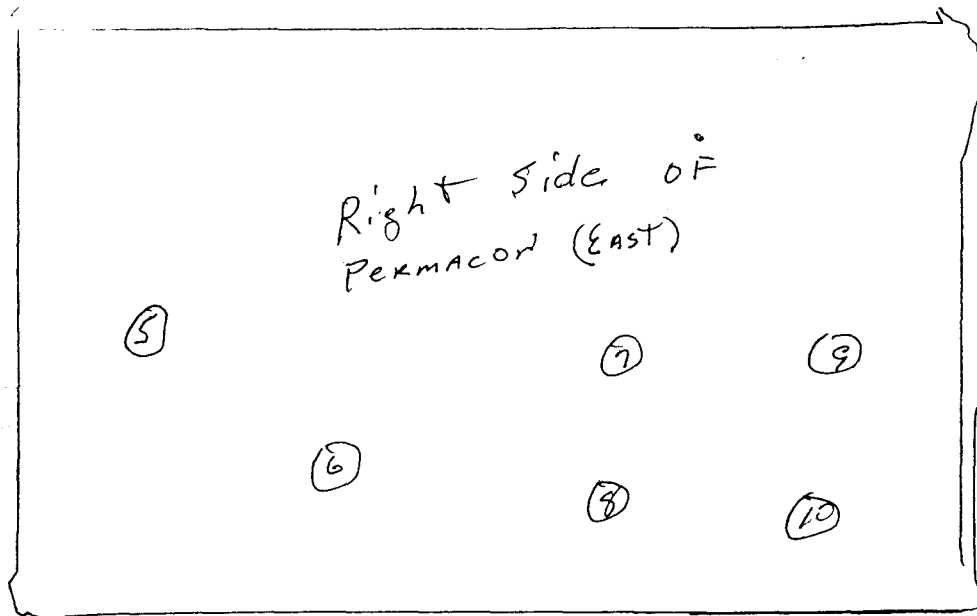
RWP 99-549-6087

## SURVEY RESULTS

Swi #	Location/Description Results in DPM/100CM <sup>2</sup>	Removable		Total		Swi #	Location/Description Results in DPM/100CM <sup>2</sup>	Removable		Total	
		Alpa	Beta	Alpa	Beta			Alpa	Beta	Alpa	Beta
1	SEE MAP ON	<20	<200	434	4336	16					
2	BACK OF SURVEY	<20	<200	434	4336	17					
3		<20	<200	434	4336	18					
4		<20	<200	434	4336	19					
5		<20	<200	434	4336	20					
6		<20	<200	434	4336	21					
7		<20	<200	434	4336	22					
8		<20	<200	434	4336	23					
9		<20	<200	434	4336	24					
10		<20	<200	434	4336	25					
11		<20	<200	434	4336	26					
12		<20	<200	434	4336	27					
3		<20	<200	434	4336	28					
4		<20	<200	434	4336	29					
15		<20	<200	434	4336	30					

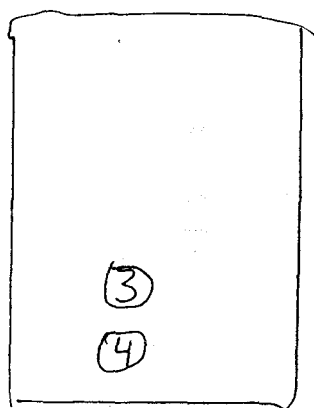
Date Reviewed: 6-11-99 RS Supervision: LN Cooper J. Cooper  
 Print Name Signature

Y9000



FLOOR

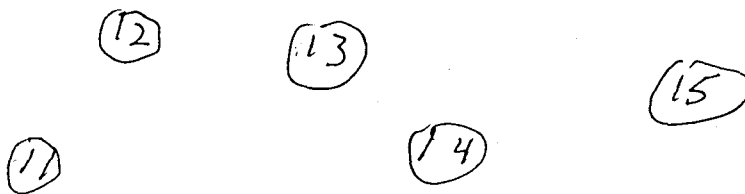
FRONT OF PERMACON



FLOOR

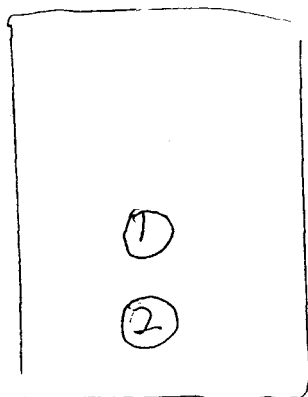
PERMACON in tent # 10

Left Side  
PERMACON (WEST)



FLOOR

back OF PERMACON



back - South  
FRONT - NORTH

**ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE**

**INSTRUMENT DATA**

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model BC-4	Model BC-4	Model SAC-4
Serial # 838	Serial # 874	Serial # 959
Cal Due 7/13/99	Cal Due 6/7/99	Cal Due 7/5/99
Bkg. 41	Bkg. 38	Bkg. 0.0
Efficiency 25%	Efficiency 25%	Efficiency 33%
MDA <200	MDA <200	MDA <20

**Survey Type:** Contamination Survey

Building: Tent # 10

Location: Pad 904

Purpose: CHARACTERIZATION SURVEYS

RWP #: - NA -

Date: 04-06-99

Time: 1430

Mfg. EBERLINE	Mfg. NE TECH	Mfg. NE TECH
Model SAC-4	Model ELECTRA	Model ELECTRA
Serial # 1188	Serial # 2343	Serial # 2343
Cal Due 6/16/99	Cal Due 8-12-99	Cal Due 8-12-99
Bkg. 0.1	Bkg. 92	Bkg. 3505
Efficiency 33%	Efficiency 22.0%	Efficiency 32.0%
MDA <20	MDA 43	MDA 321

RCT: Rex Snyder | *[Signature]*  
 Print name Signature

RCT: *[Signature]* | *[Signature]* | *[Signature]*  
 Print name Signature Emp. #

PRL #:

Comments: Exterior Survey

All Results Are In dpm/100cm2

**SURVEY RESULTS**

Removable		Direct		Removable		Direct	
Alpha	Beta	Alpha	Beta	Alpha	Beta	Alpha	Beta
1. < 20	< 200	< 43	< 321	23. < 20	< 200	54	< 321
2. < 20	< 200	< 43	< 321	24. < 20	< 200	< 43	< 321
3. < 20	< 200	< 43	< 321	25. < 20	< 200	< 43	< 321
4. < 20	< 200	< 43	< 321	26. < 20	< 200	54	< 321
5. < 20	< 200	< 43	< 321	27. < 20	< 200	< 43	< 321
6. < 20	< 200	< 43	< 321	28. < 20	< 200	< 43	< 321
7. < 20	< 200	< 43	< 321	29. < 20	< 200	48	486
8. < 20	< 200	60	< 321	30. < 20	< 200	< 43	< 321
9. < 20	< 200	< 43	< 321	31.			
10. < 20	< 200	78	< 321	32.			
11. < 20	< 200	< 43	< 321	33.			
12. < 20	< 200	< 43	< 321	34.			
13. < 20	< 200	< 43	< 321	35.			
14. < 20	< 200	< 43	< 321	36.			
15. < 20	< 200	< 43	< 321	37.			
16. < 20	< 200	< 43	< 321	38.			
17. < 20	< 200	< 43	< 321	39.			
18. < 20	< 200	60	< 321	40.			
19. < 20	< 200	< 43	< 321	41.			
20. < 20	< 200	< 43	< 321	42.			
21. < 20	< 200	< 43	< 321	43.			
22. < 20	< 200	< 43	< 321	44.			

Date: 4-8-99

RS Supervision: G. E. OSBURN

Print Name

Signature: *[Signature]*

Emp. #



# ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SIT

## RADIOLOGICAL SAFETY

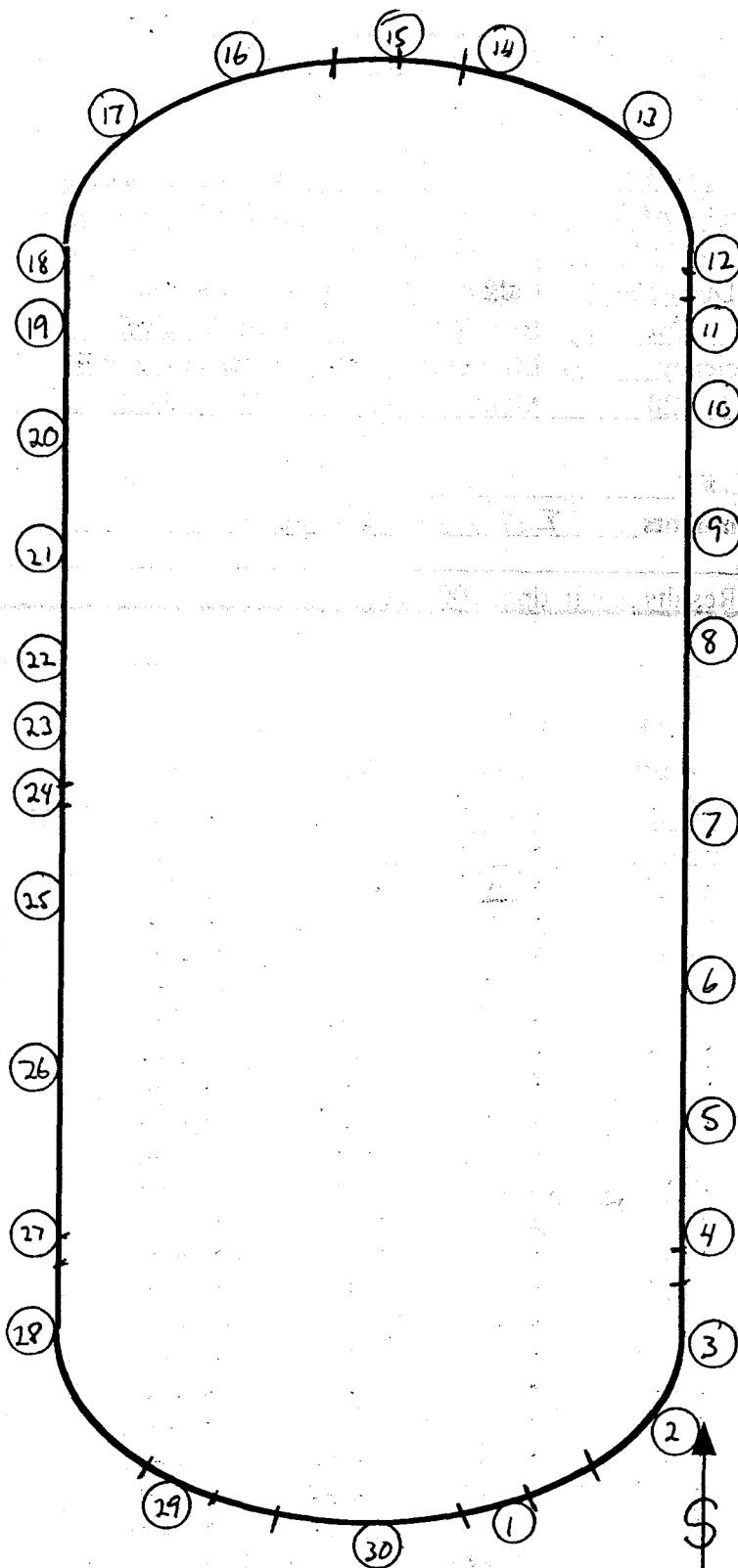
### Drawing Showing Survey Points

#### Location

1. Door - C-4'
2. # 25/N21 - C-2'
3. # NC21-4'
4. Door 8'-C-
5. # W19/W18 - C-4'
6. # W17-C-5'
7. # W14-8'
8. # W11/W10 C-4'
9. # W9 C-3'
10. # W6/W5 - C-4'
11. # W4-4'
12. Door - 8'-C-
13. # 26/25 - C-3'
14. # 27-8'
15. Door - C-5'
16. # 28/29 - C-3'
17. # E1 - C-8'
18. Door E2/E3 - C-8'
19. # E3/E4 C-3'
20. # E6/E7 C-4'
21. # E8-9'
22. # E10-E11 - C-6'
23. E12/E13 - C-2'
24. Door - 8'-E13/E14 C-
25. # E14/E17 C-4'
26. # E18-5'
27. Door E19/20 - C-8'
28. # E21 C-3'
29. Door C-1'
30. # 23/24 C-4'
- 31.
- 32.
- 33.
- 34.
- 35.
- 36.
- 37.
- 38.
- 39.
- 40.
- 41.
- 42.
- 43.
- 44.

# Support ID  
C = Canvas

' (ft) = height from ground



# ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

9057

## INSTRUMENT DATA

Mfg. EBERLINE Mfg. EBERLINE Mfg. EBERLINE			Survey Type: Contamination Survey	
Model BC-4	Model BC-4	Model SAC-4	Building: TENT # 10	
Serial # 838	Serial # 874	Serial # 959	Location: 904 PAD	
Cal Due 7/13/99	Cal Due 6/7/99	Cal Due 7/5/99	Purpose: CHARACTERIZATION SURVEYS	
Bkg. 43	Bkg. 41	Bkg. 0.0	RWP #: NA	
Efficiency 25%	Efficiency 25%	Efficiency 33%	Date: 04-21-99 Time: 1620	
MDA <200	MDA <200	MDA <20	RCT: Rex Snyder / [Signature]	
Mfg. EBERLINE	Mfg. NE TECH	Mfg. NE TECH	Print name Signature	
Model SAC-4	Model ELECTRA	Model ELECTRA	RCT: N / A	
Serial # 1188	Serial # 1255	Serial # 1255	Print name Signature Emp. #	
Cal Due 6/16/99	Cal Due 9-16-99	Cal Due 9-16-99		
Bkg. 0.1	Bkg. 3	Bkg. 458		
Efficiency 33%	Efficiency 11.8%	Efficiency 31.8%		
MDA <20	MDA 51	MDA 306		

PRL #:

Comments Ceiling - Walls + Systems over 2 meter Survey Points

All Results Are In dpm/100cm2

## SURVEY RESULTS

Removable		Direct		Removable		Direct	
Alpha	Beta	Alpha	Beta	Alpha	Beta	Alpha	Beta
1. < 20	< 200	< 51	< 306	23. < 20	< 200	< 51	< 306
2. < 20	< 200	< 51	< 306	24. < 20	< 200	< 51	< 306
3. < 20	< 200	< 51	< 306	25. < 20	< 200	< 51	< 306
4. < 20	< 200	< 51	< 306	26. < 20	< 200	< 51	< 306
5. < 20	< 200	< 51	< 306	27. < 20	< 200	< 51	< 306
6. < 20	< 200	< 51	< 306	28. < 20	< 200	< 51	< 306
7. < 20	< 200	< 51	< 306	29. < 20	< 200	< 51	< 306
8. < 20	< 200	< 51	< 306	30. < 20	< 200	< 51	< 306
9. < 20	< 200	< 51	< 306	31. < 20	< 200	< 51	< 306
10. < 20	< 200	< 51	< 306	32. < 20	< 200	< 51	< 306
11. < 20	< 200	< 51	< 306	33. < 20	< 200	< 51	< 306
12. < 20	< 200	< 51	< 306	34. < 20	< 200	< 51	< 306
13. < 20	< 200	< 51	< 306	35. < 20	< 200	< 51	< 306
14. < 20	< 200	< 51	< 306	36. < 20	< 200	< 51	< 306
15. < 20	< 200	< 51	< 306	37. < 20	< 200	< 51	< 306
16. < 20	< 200	< 51	< 306	38. < 20	< 200	< 51	< 306
17. < 20	< 200	< 51	< 306	39. < 20	< 200	< 51	< 306
18. < 20	< 200	< 51	< 306	40. < 20	< 200	< 51	< 306
19. < 20	< 200	< 51	< 306	41. < 20	< 200	< 51	< 306
20. < 20	< 200	< 51	< 306	42. < 20	< 200	< 51	< 306
21. < 20	< 200	< 51	< 306	43. < 20	< 200	< 51	< 306
22. < 20	< 200	< 51	< 306	44. < 20	< 200	< 51	< 306

Date 4/26/99 RS Supervision: LN Cooper 1 [Signature]

Print Name Signature

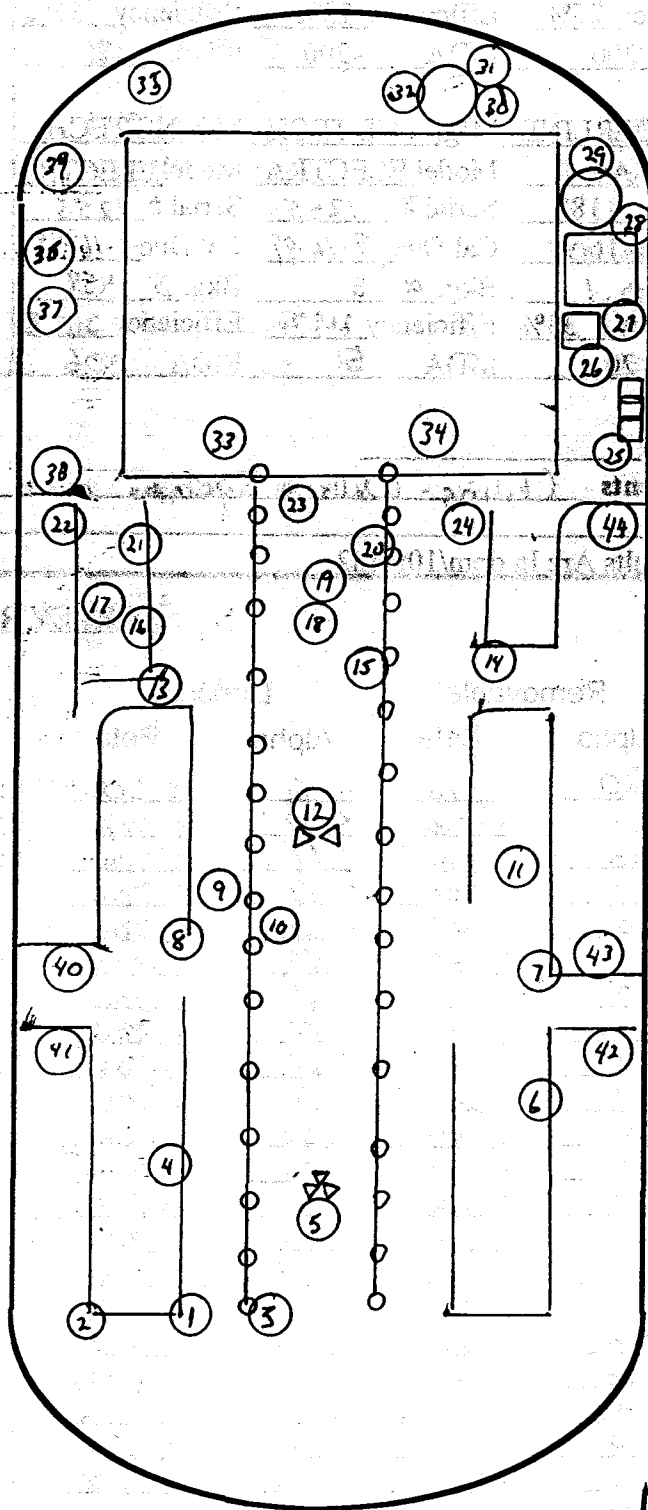
112

## ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SIT

## RADIOLOGICAL SAFETY

## Drawing Showing Survey Points

Location	
1. Heat Pipe Hood	
2. Heat Pipe Hood	
3. Light	
4. Igniter	
5. Speakers	
6. Heat Pipe Hood	
7. Heat Pipe Hood	
8. Heat Pipe Hood	
9. EG 20'	
10. Beams between 2nd light	
11. EIO & Canvas 20'	
12. Speakers	
13. Heat Hood	
14. Heat Hood	
15. Light on E 12	
16. Heat Hood W 14	
17. Support W 13	
18. Top Support Beams W 13/W 14	
19. Tent Canvas Vent	
20. Canvas W 15 25'	
21. Igniter 10-14	
22. Heater Hood	
23. Conduit & Box	
24. Support E 17 25'	
25. Top Tent II Panel Box 9'	
26. Small Hopper 438-115 8'	
27. Big Hopper 438-017 10'	
28. Big Hopper Box Top 8'	
29. Water Tank Top 6'	
30. Water Shower Leg 6'	
31. Water Shower ledge 9'	
32. Water Shower Side 10'	
33. Top Permacan Build.	
34. Top Permacan Build.	
35. Locker Top	
36. Locker Top	
37. Locker Top	
38. Heat Pipe 10'	
39. Support 10'	
40. Heat Pipe 10'	
41. Heat Pipe 8'	
42. Heat Pipe 8'	
43. Heat Pipe 10'	
44. Heat Pipe 8'	



Tent # 10

# ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## INSTRUMENT DATA

Mfg. EBERLINE Mfg. EBERLINE Mfg. EBERLINE			Survey Type: Contamination Survey	
Model BC-4	Model BC-4	Model SAC-4	Building: TENT # 10	
Serial # 838	Serial # 874	Serial # 959	Location: 904 PAD	
Cal Due 7/13/99	Cal Due 6/7/99	Cal Due 7/5/99	Purpose: CHARACTERIZATION SURVEYS	
Bkg. 41	Bkg. 41	Bkg. 0.1	RWP #: NA	
Efficiency 25%	Efficiency 25%	Efficiency 33%	Date: 04-29-99 Time: 1500	
MDA <200	MDA <200	MDA <20		
Mfg. EBERLINE	Mfg. NE TECH	Mfg. NE TECH	RCT: Rex Snyder / <i>R. B. Snyder</i>	
Model SAC-4	Model ELECTRA	Model ELECTRA	Print name	Signature
Serial # 1188	Serial # 1680	Serial # 1680		Emp. #
Cal Due 6/16/99	Cal Due 8-10-99	Cal Due 8-10-99		
Bkg. 0.1	Bkg. 6	Bkg. 438	RCT: N / A	
Efficiency 33%	Efficiency 12.9%	Efficiency 34.7%	Print name	Signature
MDA <20	MDA 63	MDA 300		Emp. #

PRL #:

Comments: Floor + Wall Survey points - 2 meters + Scan 1 meter in all points

All Results Are In dpm/100cm<sup>2</sup>

## SURVEY RESULTS

Removable		Direct		Removable		Direct	
Alpha	Beta	Alpha	Beta	Alpha	Beta	Alpha	Beta
1. < 20	< 200	< 63	1338	23. < 20	< 200	< 63	< 300
2. < 20	< 200	< 63	1677	24. < 20	< 200	< 63	< 300
3. < 20	< 200	< 63	972	25. < 20	< 200	< 63	< 300
4. < 20	< 200	< 63	360	26. < 20	< 200	< 63	< 300
5. < 20	< 200	< 63	1362	27. < 20	< 200	< 63	< 300
6. < 20	< 200	< 63	1401	28. < 20	< 200	< 63	< 700
7. < 20	< 200	< 63	1236	29. < 20	< 200	< 63	< 300
8. < 20	< 200	< 63	1221	30. < 20	< 200	< 63	< 300
9. < 20	< 200	< 63	7290	31.			
10. < 20	< 200	< 63	1032	32.			
11. < 20	< 200	< 63	1641	33.			
12. < 20	< 200	< 63	1242	34.			
13. < 20	< 200	< 63	1344	35.			
14. < 20	< 200	< 63	711	36.			
15. < 20	< 200	< 63	1278	37.			
16. < 20	< 200	< 63	1266	38.			
17. < 20	< 200	< 63	1278	39.			
18. < 20	< 200	< 63	1269	40.			
19. < 20	< 200	< 63	1431	41.			
20. < 20	< 200	< 63	960	42.			
21. < 20	< 200	< 63	< 300	43.			
22. < 20	< 200	< 63	423	44.			

Date

4/29/99

RS Supervision:

*N Cooper*

Print Name

*H. Cooper*

Signature

# ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SIT

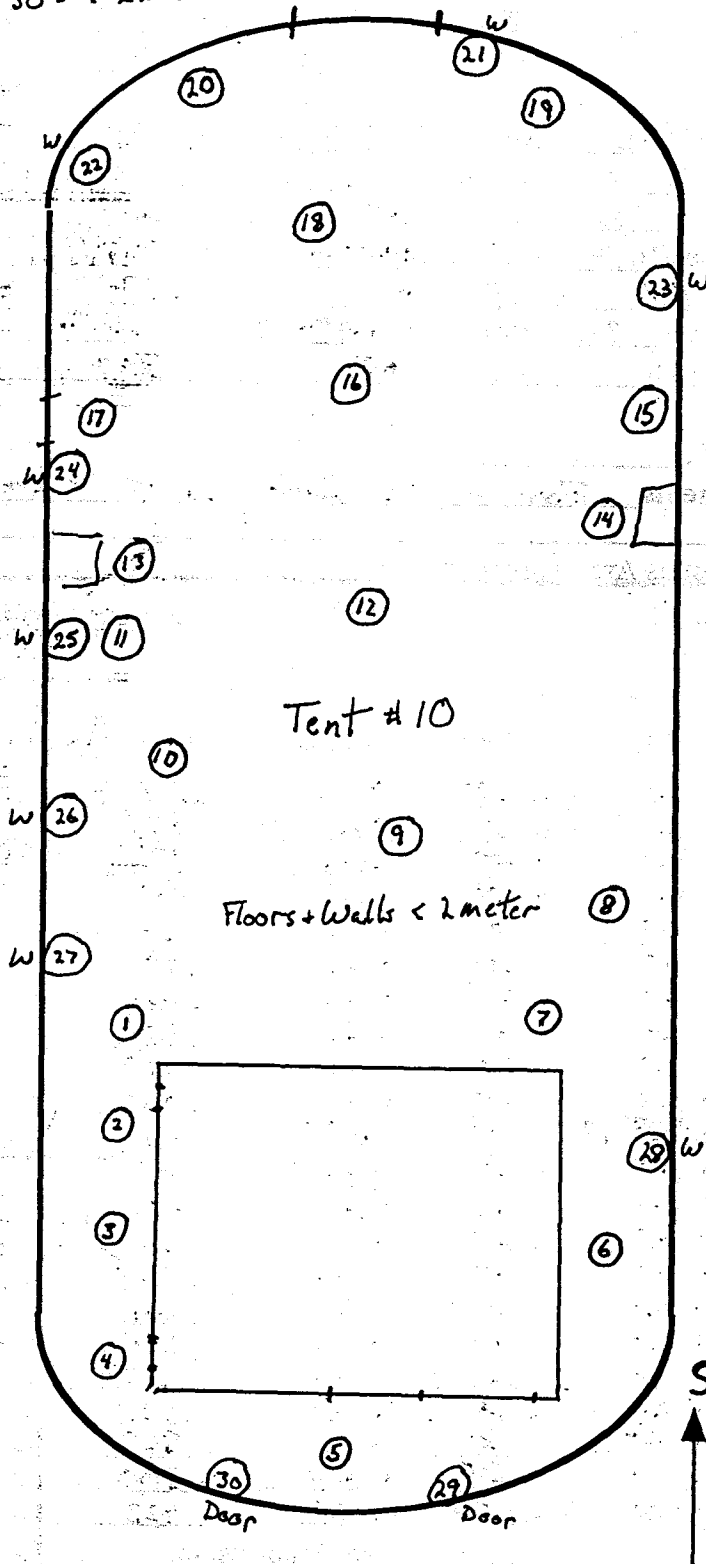
## RADIOLOGICAL SAFETY

### Drawing Showing Survey Points

Location	
1. E 17 25'	
2. E 18 20'	
3. E 20 8'	
4. E 21 10'	
5. Center	
6. W 18 10'	
7. W 16 15'	
8. W 14 8'	
9. W 12 25'	
10. E 10 15'	
11. E 9 5'	
12. W 7 30'	
13. E 6 8'	
14. W 5 15'	
15. W 4 4'	
16. W 3 30'	
17. E 2 6'	
18. E 1 25'	
19. 26 4'	
20. 29 8'	
21. 27 5'	
22. E 1 2'	
23. E 4 C 4'	
24. W 5 C 6'	
25. E 7 5'	
26. E 12 C 5'	
27. E 15 4'	
28. W 17 5'	
29. West Door 5'	
30. East Door 4'	
31.	
32.	
33.	
34.	
35.	
36.	
37.	
38.	
39.	
40.	
41.	
42.	
43.	
44.	

# 1 to 20 = Floor

# 21 to 30 = 2 meter wall



# ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model BC-4	Model BC-4	Model SAC-4
Serial # 838	Serial # 874	Serial # 959
Cal Due 7/13/99	Cal Due 6/7/99	Cal Due 7/5/99
Bkg. 40	Bkg. 37	Bkg. 0.1
Efficiency 25%	Efficiency 25%	Efficiency 33%
MDA <200	MDA <200	MDA <20

Mfg. EBERLINE	Mfg. NE TECH	Mfg. NE TECH
Model SAC-4	Model ELECTRA	Model ELECTRA
Serial # 1188	Serial # 1425	Serial # 1425
Cal Due 6/16/99	Cal Due 8-25-99	Cal Due 8-25-99
Bkg. 0.2	Bkg. 5	Bkg. 464
Efficiency 33%	Efficiency 21.0%	Efficiency 31.6%
MDA <20	MDA 63	MDA 308

Survey Type: Contamination Survey

Building: TENT # 10 Permacor

Location: 904 PAD

Purpose: CHARACTERIZATION SURVEYS

RWP #: ~~NA~~ 99-549-6087

Date: 05-07-99 Time: 1500

RCT: Rex Snyder  
Print name Signature Emp. #

RCT: N  
Print name Signature Emp. #

PRL #:

Comments: Walls + Floor < 2 meter Survey Points + equipment  
Area posted as "Contamination Area" Plus Direct Scan at

All Results Are In dpm/100cm2 Survey Points /m<sup>2</sup>

## SURVEY RESULTS

Removable				Direct				Removable				Direct			
Alpha	Beta	Alpha	Beta	Alpha	Beta	Alpha	Beta	Alpha	Beta	Alpha	Beta	Alpha	Beta	Alpha	Beta
1. < 20	< 200	< 63	< 308	23. < 20	< 200	< 63	< 308	23. < 20	< 200	< 63	< 308	23. < 20	< 200	< 63	< 308
2. < 20	< 200	< 63	< 308	24. < 20	< 200	< 63	< 308	24. < 20	< 200	< 63	< 308	24. < 20	< 200	< 63	< 308
3. < 20	< 200	< 63	< 308	25. < 20	< 200	< 63	< 308	25. < 20	< 200	< 63	< 308	25. < 20	< 200	< 63	< 308
4. < 20	< 200	< 63	< 308	26. < 20	< 200	< 63	< 308	26. < 20	< 200	< 63	< 308	26. < 20	< 200	< 63	< 308
5. < 20	< 200	< 63	< 308	27. < 20	< 200	< 63	< 308	27. < 20	< 200	< 63	< 308	27. < 20	< 200	< 63	< 308
6. < 20	< 200	84	< 308	28. < 20	< 200	< 63	< 308	28. < 20	< 200	< 63	< 308	28. < 20	< 200	< 63	< 308
7. < 20	< 200	< 63	< 308	29. < 20	< 200	< 63	< 308	29. < 20	< 200	< 63	< 308	29. < 20	< 200	< 63	< 308
8. < 20	< 200	< 63	< 308	30. < 20	< 200	< 63	< 308	30. < 20	< 200	< 63	< 308	30. < 20	< 200	< 63	< 308
9. < 20	< 200	< 63	< 308	31. < 20	< 200	< 63	< 308	31. < 20	< 200	< 63	< 308	31. < 20	< 200	< 63	< 308
10. < 20	< 200	< 63	< 308	32. < 20	< 200	< 63	< 308	32. < 20	< 200	< 63	< 308	32. < 20	< 200	< 63	< 308
11. < 20	< 200	342	414	33. < 20	< 200	< 63	< 308	33. < 20	< 200	< 63	< 308	33. < 20	< 200	< 63	< 308
12. < 20	< 200	< 63	< 308	34. < 20	< 200	< 63	< 308	34. < 20	< 200	< 63	< 308	34. < 20	< 200	< 63	< 308
13. < 20	< 200	< 63	< 308	35. < 20	< 200	< 63	< 308	35. < 20	< 200	< 63	< 308	35. < 20	< 200	< 63	< 308
14. < 20	< 200	< 63	< 308	36. < 20	< 200	< 63	< 308	36. < 20	< 200	< 63	< 308	36. < 20	< 200	< 63	< 308
15. < 20	< 200	< 63	< 308	37. < 20	< 200	72	< 308	37. < 20	< 200	72	< 308	37. < 20	< 200	72	< 308
16. < 20	< 200	< 63	< 308	38. < 20	< 200	< 63	< 308	38. < 20	< 200	< 63	< 308	38. < 20	< 200	< 63	< 308
17. < 20	< 200	< 63	< 308	39. < 20	< 200	< 63	< 308	39. < 20	< 200	< 63	< 308	39. < 20	< 200	< 63	< 308
18. < 20	< 200	174	435	40. < 20	< 200	< 63	< 308	40. < 20	< 200	< 63	< 308	40. < 20	< 200	< 63	< 308
19. 21	< 200	234	< 308	41. < 20	< 200	< 63	< 308	41. < 20	< 200	< 63	< 308	41. < 20	< 200	< 63	< 308
20. < 20	< 200	186	< 308	42. < 20	< 200	< 63	< 308	42. < 20	< 200	< 63	< 308	42. < 20	< 200	< 63	< 308
21. < 20	< 200	< 63	< 308	43. < 20	< 200	< 63	< 308	43. < 20	< 200	< 63	< 308	43. < 20	< 200	< 63	< 308
22. < 20	< 200	< 63	< 308	44. < 20	< 200	< 63	< 308	44. < 20	< 200	< 63	< 308	44. < 20	< 200	< 63	< 308

Date: 5/10/99 RS Supervision: LN Cooper  
Print Name Signature

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

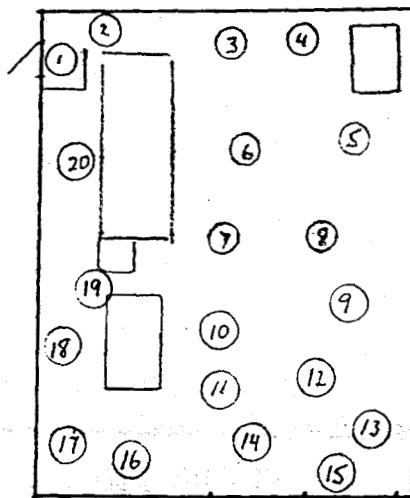
Tent # 10

Permacon

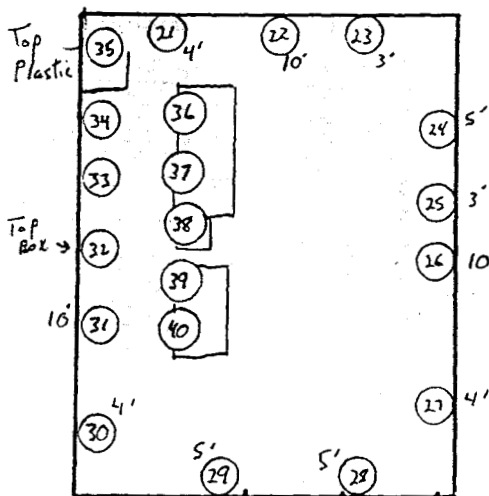
Postes:

C.A.

RWD Required



Floor



Walls + Equipment

# ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## INSRUMENT DATA

Mfg.	Eberline Mfg.	Eberline Mfg.	NE Electra
Model	SAC-4	Model	SAC-4
Serial#	835	Serial#	824
Cal Due	10-26-99	Cal Due	10-13-99
Bkg.	<6	Bkg.	<6
Efficienc	0.33	Efficienc	0.33
MDA	<20	MDA	<20

Mfg.	Eberline	Mfg.	Eberline	Mfg.	Ludlum
Model	BC-4	Model	BC-4	Model	2929
Serial#	905	Serial#		Serial#	
Cal Due	9-30-99	Cal Due		Cal Due	
Bkg.	38	Bkg.		Bkg.	
Efficienc	0.25	Efficienc	0.25	Efficienc	
MDA	<200	MDA		MDA	

Survey Type: Contamination

Building: Tent #10  
 Location: 904 PAD  
 Purpose: Re characterization Survey

RWP #: N/A

Date: 7-27-99 Time: 1400

RCT: P. Upstal Print name  
 Signature

RCT: Print name Signature Emp. #

PRL #:

Comments: Resurvey of location #11 of original survey - SEE MAP on REVERSE SIDE

## SURVEY RESULTS

Swipe #	Location/Description	Removable		Total Removable+Fixed		Swipe #	Location/Description	Removable		Total Removable+Fixed	
		Alpha	Beta	Alpha	Beta			Alpha	Beta	Alpha	Beta
1		<20	<200	<42	<333	16					
2						17					
3						18					
4						19					
5						20					
6						21					
7						22					
8						23					
9						24					
10						25					
11						26					
12						27					
13						28					
14						29					
15						30					

Date Reviewed: 7-27-99

RS Supervision:

UN Cooper  
 Print Name

Signature

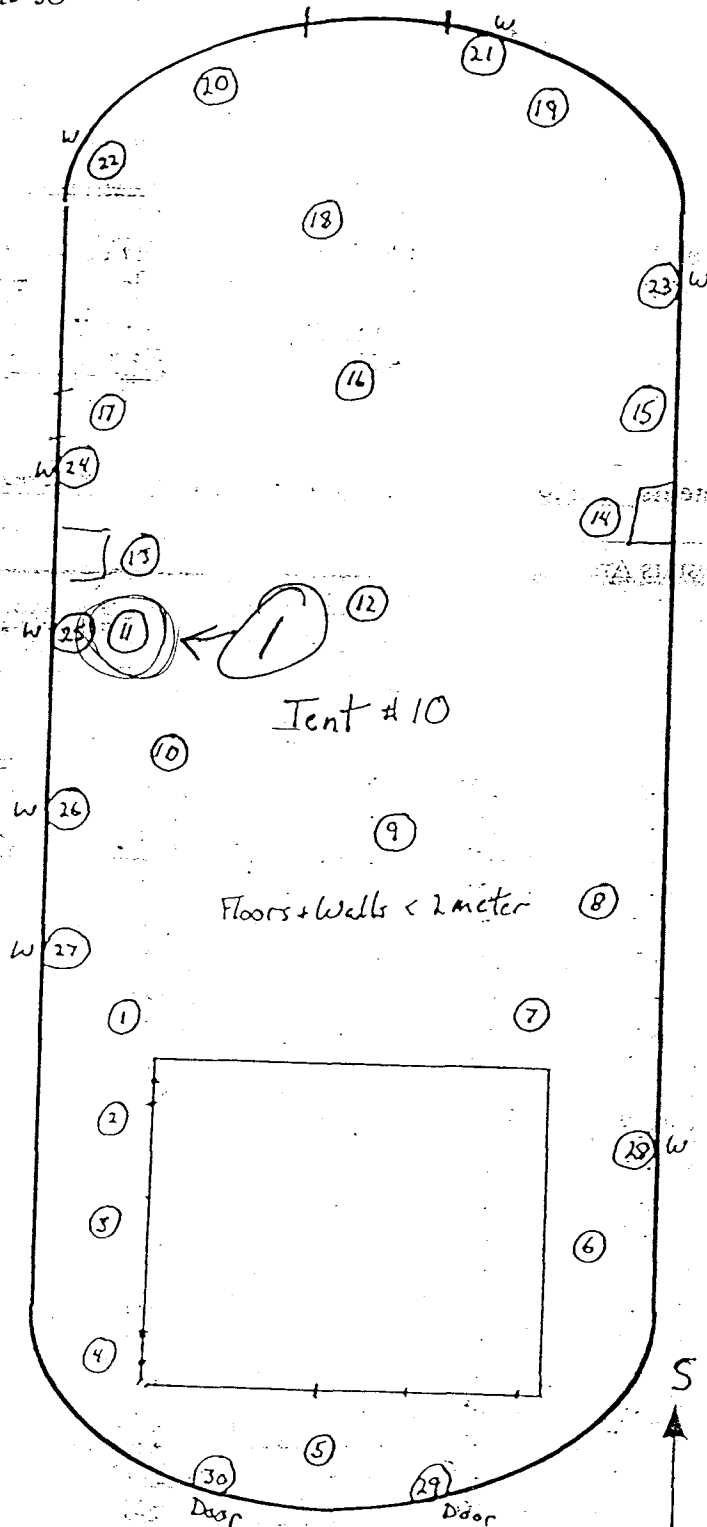


# ~~CONFIDENTIAL~~ ~~TECHNOLOGY~~ **RADIOLOGICAL SAFETY**

## Drawing Showing Survey Points Drawing Showing Survey Points

#1 to 20 = Floor

#21 to 30 = < 2 meter wall



## Appendix E.1

### Pad 904 Tent 10 Historical Radiological Data

## Appendix E.1.1

Pad 904 Tent 10 Historical Radiological Data

Radiological Surveys

## **Appendix E.3**

### **Pad 904 Tent 10 Historical Chemical Data**

## **Appendix E.3.1**

### **Pad 904 Tent 10 Historical Chemical Data**

#### **Beryllium**

## **Appendix E.3.1.1**

### **Pad 904 Tent 10 Historical Chemical Data**

#### **Beryllium**

#### **Chain of Custody**

MAY 26 '99 14:34 FR MTC IH LAB

303 978 3005 TO 93039664555

P.06

Commodore Advanced Sciences		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				C.O.C.# 99Z7574#001		
Collector		Contact/Requester		Telephone No.	MBIN	FAX	Page 1 of 2	
OLSON, KAREN		OLSON, KAREN		303-966-4370				
BIN 99Z7574		Sampling Origin		904				
Project Title		Logbook No.		N/A				
To (Lab)		Method of Shipment		N/A				
Protocol		HAND DELIVER		N/A				
POSSIBLE SAMPLE HAZARD/REMARKS		SPECIAL INSTRUCTIONS		Hold Time	Total Activity Exemption	Yes	No	
** **		PRE #: 990101-00187-04 REV 1.						
Bottle No.	Customer Number	Matrix	Date	Time	Location	NuType Container	Sample Analysis	Preservative: Packing
99Z7574-001.001	904-05181999-35-001	FILTER			904	1-FILTER N/A	NR01A001 (Beryllium Filter Analysis) [Routine]	N/A None
99Z7574-002.001	904-05181999-35-002	FILTER			904	1-FILTER N/A	NR01A001 (Beryllium Filter Analysis) [Routine]	N/A None
99Z7574-003.001	904-05181999-35-003	FILTER			904	1-FILTER N/A	NR01A001 (Beryllium Filter Analysis) [Routine]	N/A None
99Z7574-004.001	904-05181999-35-004	FILTER			904	1-FILTER N/A	NR01A001 (Beryllium Filter Analysis) [Routine]	N/A None
99Z7574-005.001	904-05181999-35-005	FILTER			904	1-FILTER N/A	NR01A001 (Beryllium Filter Analysis) [Routine]	N/A None
99Z7574-006.001	904-05181999-35-006	FILTER			904	1-FILTER N/A	NR01A001 (Beryllium Filter Analysis) [Routine]	N/A None
99Z7574-007.001	904-05181999-35-007	FILTER			904	1-FILTER N/A	NR01A001 (Beryllium Filter Analysis) [Routine]	N/A None
Relinquished By:	Received By:	Date/Time	Date/Time	Relinquished By:	Received By:	Date/Time	Date/Time	Date/Time
Relinquished By:	Received By:	Date/Time	Date/Time	Relinquished By:	Received By:	Date/Time	Date/Time	Date/Time
Relinquished By:	Received By:	Date/Time	Date/Time	Relinquished By:	Received By:	Date/Time	Date/Time	Date/Time
Relinquished By:	Received By:	Date/Time	Date/Time	Relinquished By:	Received By:	Date/Time	Date/Time	Date/Time
FINAL SAMPLE DISPOSITION		Disposal Method (e.g., Return to customer, per 15 procedure, used in process)		Disposed By:		Date/Time		

123

MAY 26 '99 14:35 FR MTC IH LAB

303 978 3005 TO 93039664555

P.07

Commodore Advanced Sciences		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST <i>Doc. 5/28/99</i>										C.O.C.# 99Z7574#001	
Page 2 of 3		FAX											
RUN 99Z7574		Telephone No. 303-956-6370		MISIN		Sample Analysis		Preservative:		Packaging			
Bottle No.	Customer Number	Monitor	Date	Time	Location	NetType Container	NR01A001 (Beryllium Filter Analysis) [Routine]	NR01A001 (Beryllium Filter Analysis) [Routine]	NR01A001 (Beryllium Filter Analysis) [Routine]	NR01A001 (Beryllium Filter Analysis) [Routine]	NR01A001 (Beryllium Filter Analysis) [Routine]		
99Z7574-008.001	904-05181899-35-008	FILTER			804	1-FILTER N/A					N/A		
99Z7574-009.001	904-05181899-35-009	FILTER			904	1-FILTER N/A					N/A		
99Z7574-010.001	904-05181899-35-010	FILTER			904	1-FILTER N/A					N/A		
99Z7574-011.001	904-05181899-35-011	FILTER			904	1-FILTER N/A					N/A		
99Z7574-012.001	904-05181899-35-012	FILTER			904	1-FILTER N/A					N/A		
99Z7574-013.001	904-05181899-35-013	FILTER			904	1-FILTER N/A					N/A		
99Z7574-014.001	904-05181899-35-014	FILTER			904	1-FILTER N/A					N/A		
99Z7574-015.001	904-05181899-35-015	FILTER			904	1-FILTER N/A					N/A		
99Z7574-016.001	904-05181899-35-016	FILTER			904	1-FILTER N/A					N/A		
99Z7574-017.001	904-05181899-35-017	FILTER			904	1-FILTER N/A					N/A		
99Z7574-018.001	904-05181899-35-018	FILTER			904	1-FILTER N/A					N/A		
Relinquished By: <i>5/29/99 16:00</i>	Received By: <i>5/29/99 16:00</i>	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time		
Relinquished By: <i>5/29/99 16:00</i>	Received By: <i>5/29/99 16:00</i>	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time		
Relinquished By:	Received By:	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time		
Relinquished By:	Received By:	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time		
Relinquished By:	Received By:	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time		
Relinquished By:	Received By:	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time		
FINAL SAMPLE DISPOSITION													
Disposal Method (e.g. Return to customer, per lab procedure, used in process)													
Disposed By: _____ Date/Time: _____													



[illegible]

## **Appendix E.3.1.2**

### **Pad 904 Tent 10 Historical Chemical Data**

#### **Beryllium**

#### **Sample Locations**

## Beryllium Characterization Program

Coordinate Sheet Number: 113

Sample Locations Specification

Building Number: 1004 Bld

Room Number: 1004 Bld

Room Dimensions:

East/West: 60 ft.

North/South: 335 ft.

Sample Number	Generated Random Numbers E/W	Generated Random Numbers N/S	Corresponding Random Sample Location Coordinates (East/West, North/South)	Sample Number	Generated Random Numbers E/W	Generated Random Numbers N/S	Corresponding Random Sample Location Coordinates (East/West, North/South)
1	0.193	0.483	(12, 29)	26	0.601	0.569	(36, 191)
2	0.083	0.982	(5, 309)	27	0.204	0.602	(12, 202)
3	0.712	0.825	(43, 276) <i>not in range</i>	28	0.248	0.144	(15, 48)
4	0.834	0.159	(50, 53)	29	0.557	0.078	(33, 26)
5	0.463	0.484	(28, 162)	30	0.903	0.838	(54, 281)
6	0.140	0.060	(8, 20)	31	0.470	0.821	(28, 275) <i>not in range</i>
7	0.945	0.696	(57, 233)	32	0.019	0.156	(1, 152)
8	0.246	0.720	(16, 241)	33	0.530	0.224	(32, 75)
9	0.786	0.384	(47, 129)	34	0.719	0.927	(43, 311)
10	0.820	0.996	(49, 334) <i>not in range</i>	35	0.214	0.835	(13, 280)
11	0.385	0.862	(23, 289)	36	0.310	0.256	(19, 86)
12	0.411	0.183	(25, 61)	37	0.857	0.302	(51, 106)
13	0.571	0.410	(34, 137)	38	0.690	0.500	(41, 168)
14	0.564	0.725	(34, 243)	39	0.359	0.720	(22, 241)
15	0.001	0.641	(5, 215)	40	0.041	0.481	(2, 161)
16	0.739	0.617	(44, 207)	41	0.843	0.011	(51, 4)
17	0.206	0.294	(12, 48)	42	0.813	0.569	(49, 191)
18	0.962	0.301	(58, 101)	43	0.303	0.639	(18, 214)
19	0.402	0.634	(24, 38)	44	0.114	0.389	(7, 130)
20	0.420	0.013	(25, 4)	45	0.704	0.320	(42, 107)
21	0.696	0.241	(42, 81)	46	0.977	0.797	(59, 267)
22	0.573	0.954	(34, 320) <i>not in range</i>	47	0.407	0.965	(21, 323)
23	0.062	0.797	(4, 267)	48	0.234	0.376	(14, 126)
24	0.371	0.389	(22, 130)	49	0.597	0.277	(36, 93)
25	1.000	0.110	(60, 37)	50	0.564	0.857	(34, 287) <i>not in range</i>

# Beryllium Characterization Program

## Sample Locations Specification

Building Number: 904-Bad

Room Number: 10

Room Dimensions:

East/West: 60 ft.

North/South: 335 ft.

Using Coordinate  
Sheet  
Number: 113

### Sketch of General Room Layout

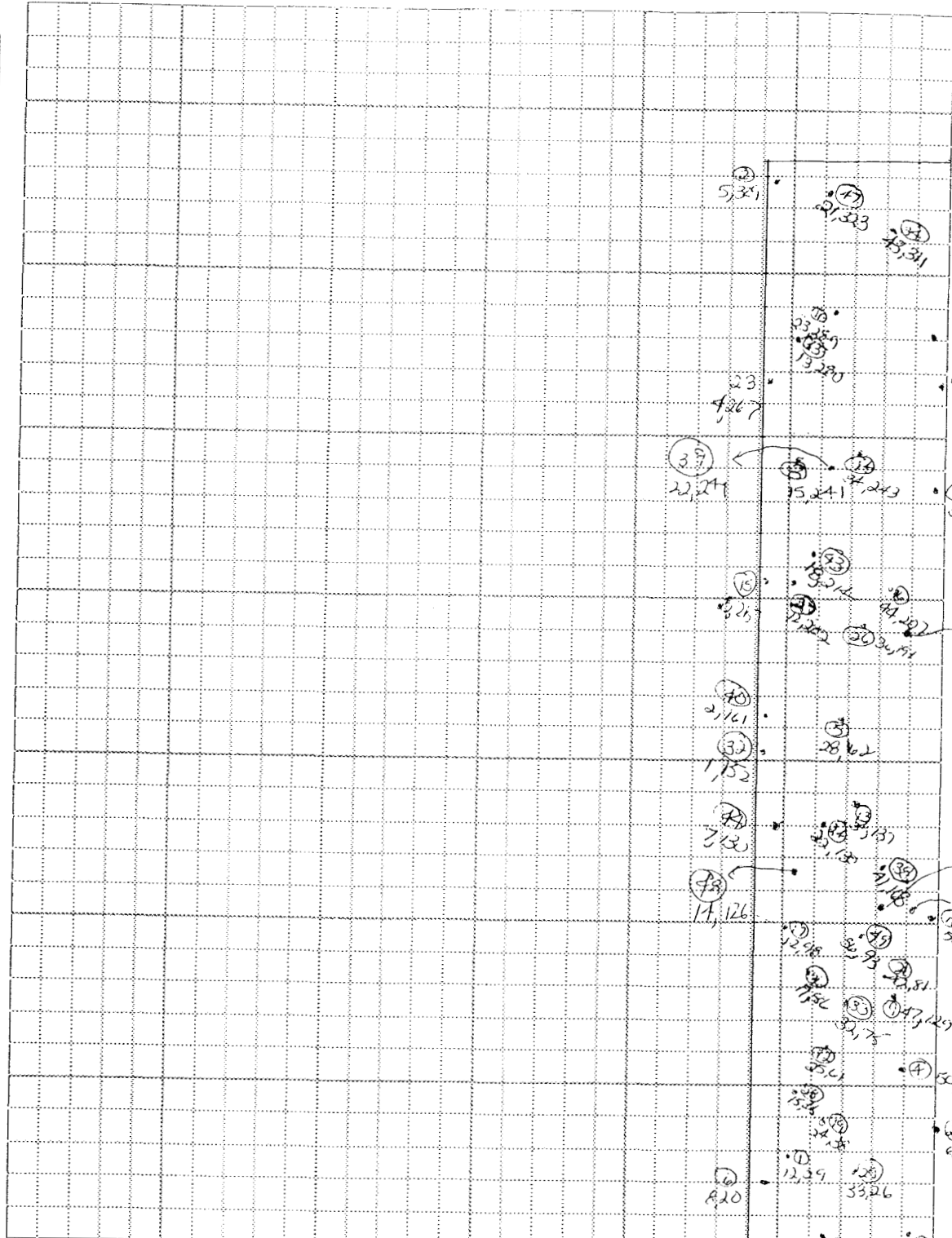
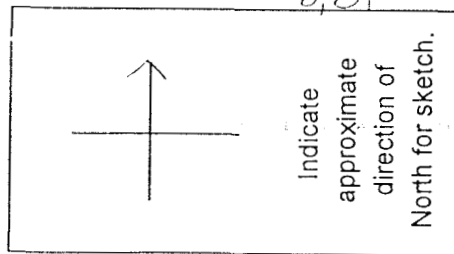
[Indicating

coordinate origin,

•, point (0, 0),

and approximate

location of doors.]



Not to Scale

10 ft

## Beryllium Characterization Program

Coordinate Sheet Number: 159

Sample Locations Specification

Building Number: 904 PedRoom Number: 10th #10  
Rymeson

Room Dimensions:

East/West: 24 ft. North/South: 56 ft.

Sample Number	Generated Random Numbers		Corresponding Random Sample Location Coordinates (East/West, North/South)		Sample Number	Generated Random Numbers		Corresponding Random Sample Location Coordinates (East/West, North/South)	
	E/W	N/S				E/W	N/S		
1	0.771	0.852	( <u>19</u>	<u>47</u> )	26	0.641	0.736	(	)
2	0.326	0.103	( <u>8</u>	<u>6</u> )	27	0.107	0.744	(	)
3	0.251	0.708	( <u>6</u>	<u>40</u> )	28	0.167	0.132	(	)
4	0.880	0.153	( <u>21</u>	<u>9</u> )	29	0.772	0.174	(	)
5	0.500	0.491	( <u>12</u>	<u>27</u> )	30	0.788	0.526	(	)
6	0.938	0.616	( <u>23</u>	<u>34</u> )	31	0.439	0.815	(	)
7	0.038	0.965	( <u>1</u>	<u>54</u> )	32	0.027	0.371	(	)
8	0.135	0.338	( <u>3</u>	<u>19</u> )	33	0.921	0.248	(	)
9	0.681	0.048	( <u>16</u>	<u>3</u> )	34	0.859	0.742	(	)
10	0.549	0.899	( <u>13</u>	<u>50</u> )	35	0.360	0.621	(	)
11	0.339	0.934	( <u>8</u>	<u>52</u> )	36	0.491	0.375	(	)
12	0.342	0.333	( <u>8</u>	<u>18</u> )	37	0.554	0.058	(	)
13	0.806	0.336	(	)	38	0.663	0.966	(	)
14	0.667	0.606	(	)	39	0.346	0.765	(	)
15	0.045	0.565	(	)	40	0.306	0.198	(	)
16	0.069	0.070	(	)	41	0.930	0.034	(	)
17	0.638	0.288	(	)	42	0.788	0.758	(	)
18	0.519	0.691	(	)	43	0.124	0.541	(	)
19	0.192	0.904	(	)	44	0.061	0.248	(	)
20	0.474	0.140	(	)	45	0.650	0.361	(	)
21	0.892	0.428	(	)	46	0.887	0.868	(	)
22	0.920	0.975	(	)	47	0.108	0.687	(	)
23	0.451	0.607	(	)	48	0.390	0.001	(	)
24	0.200	0.469	(	)	49	0.960	0.329	(	)
25	0.533	0.296	(	)	50	0.791	0.993	(	)

1214 #10

Building Number: 901-P&L

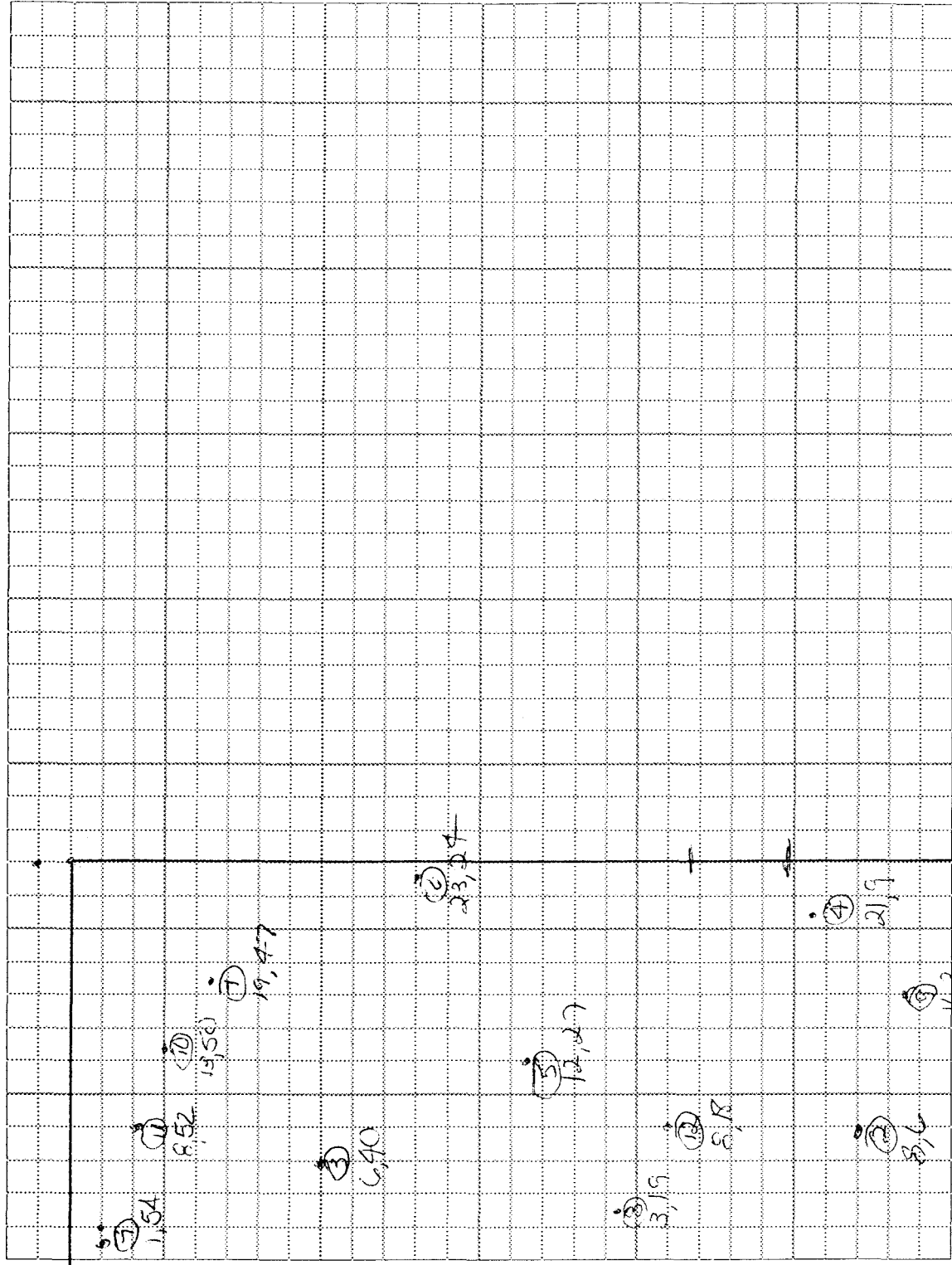
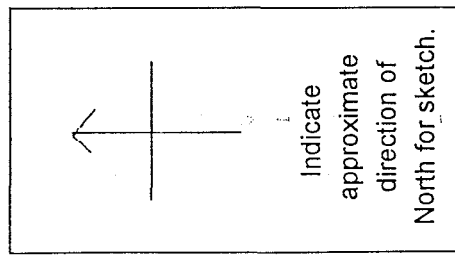
Room Number: PCWH00A

Room Dimensions: East/West: 24 ft.

North/South: 56 ft.

Using Coordinate Sheet Number: 159

**Sketch of General Room Layout**  
[Indicating coordinate origin, point (0, 0), and approximate location of doors.]



130

17 = distance 142

Also Not to Scale

### **Appendix E.3.1.3**

#### **Pad 904 Tent 10 Historical Chemical Data**

##### **Beryllium**

##### **Laboratory Report**

MAY 26 '99 14:33 FR MTC IH LAB

303 978 3005 TO 93039664555

P.02



Johns Manville Corporation  
10100 W. Ute Avenue (80127)  
P.O. Box 625005  
Littleton, CO 80162-5005  
303 978 2000

**COVER PAGE**

May 26, 1999

Rocky Flats Environmental Technology Site  
Mr. Roger Cichorz  
P.O. Box 464, Building 881  
Golden, CO 80402-0464

Laboratory Report ID: 99052110  
Laboratory Name: JMTC IH Analytical Laboratory  
Laboratory Code: JMANS  
Subcontract Number: 800221/800188SX6  
RIN: 99Z7574  
Requestor: Karen Olson  
P.O./Charge Code: NG836900

Dear Mr. Cichorz:

The Johns Manville Technical Center (JMTC) has performed the following analytical services as requested. The results are calculated based upon the information supplied on the submission form. All laboratory data has been filed and are available upon request.

The JMTC IH Analytical Laboratory is accredited by the American Industrial Hygiene Association (AIHA) in the industrial hygiene program (Certificate No. 056) and participates in the AIHA ELPAT program.

If you have any questions, please call (303) 978-2584.

**Scope of Work:**

Requested Analysis	Bottle Number(s)	Customer Number(s)	Laboratory ID Number	Line Item Code	Sample Matrix
Beryllium	99Z7574-001.001	904-05181999-35-001	99052110-001	NR01A001	WIPE
Beryllium	99Z7574-002.001	904-05181999-35-002	99052110-002	NR01A001	WIPE
Beryllium	99Z7574-003.001	904-05181999-35-003	99052110-003	NR01A001	WIPE
Beryllium	99Z7574-004.001	904-05181999-35-004	99052110-004	NR01A001	WIPE
Beryllium	99Z7574-005.001	904-05181999-35-005	99052110-005	NR01A001	WIPE
Beryllium	99Z7574-006.001	904-05181999-35-006	99052110-006	NR01A001	WIPE
Beryllium	99Z7574-007.001	904-05181999-35-007	99052110-007	NR01A001	WIPE
Beryllium	99Z7574-008.001	904-05181999-35-008	99052110-008	NR01A001	WIPE
Beryllium	99Z7574-009.001	904-05181999-35-009	99052110-009	NR01A001	WIPE
Beryllium	99Z7574-010.001	904-05181999-35-010	99052110-010	NR01A001	WIPE
Beryllium	99Z7574-011.001	904-05181999-35-011	99052110-011	NR01A001	WIPE
Beryllium	99Z7574-012.001	904-05181999-35-012	99052110-012	NR01A001	WIPE
Beryllium	99Z7574-013.001	904-05181999-35-013	99052110-013	NR01A001	WIPE
Beryllium	99Z7574-014.001	904-05181999-35-014	99052110-014	NR01A001	WIPE
Beryllium	99Z7574-015.001	904-05181999-35-015	99052110-015	NR01A001	WIPE
Beryllium	99Z7574-016.001	904-05181999-35-016	99052110-016	NR01A001	WIPE
Beryllium	99Z7574-017.001	904-05181999-35-017	99052110-017	NR01A001	WIPE
Beryllium	99Z7574-018.001	904-05181999-35-018	99052110-018	NR01A001	WIPE
Beryllium	99Z7574-019.001	904-05181999-35-019	99052110-019	NR01A001	WIPE
Beryllium	99Z7574-020.001	904-05181999-35-020	99052110-020	NR01A001	WIPE
Beryllium	99Z7574-021.001	904-05181999-35-021	99052110-021	NR01A001	WIPE
Beryllium	99Z7574-022.001	904-05181999-35-022	99052110-022	IH01C015	AIR
Beryllium	99Z7574-023.001	904-05181999-35-023	99052110-023	IH01C015	AIR



MAY 26 '99 14:33 FR MTC IH LAB

303 978 3005 TO 93039664555

P.03

May 26, 1999

Laboratory Report ID: 99052110  
Laboratory Name: JMTc IH Analytical Laboratory  
Laboratory Code: JMANs  
Subcontract Number: 800221/800188SX6  
RIN: 99Z7574  
Requestor: Karen Olson  
P.O./Charge Code: NG836900

**Comments:** No problems were encountered with sample receiving and sample analyses.

I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, other than the conditions detailed above. Release of the data contained in this hard-copy sample package and the computer-readable EDD, as applicable, submitted on diskette or by modem, has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

  
\_\_\_\_\_  
Scott A. Steiner  
Industrial Hygiene Project Manager

  
\_\_\_\_\_  
Date

## **Appendix E.3.1.4**

### **Pad 904 Tent 10 Historical Chemical Data**

#### **Beryllium**

#### **Laboratory Data**

MAY 26 '99 14:34 FR MTC IH LAB

303 978 3005 TO 93039664555

P.04

May 26, 1999

Laboratory Report ID: 99052110  
 Laboratory Name: JMTC IH Analytical Laboratory  
 Laboratory Code: JMANS  
 Subcontract Number: 800221/800138SX6  
 RIN: 99Z7574  
 Requestor: Karen Olson  
 P.O./Charge Code: NG836900

## QUICK RESULTS SUMMARY

Line Item Code: NR01A001

Sample Matrix: WIPE

Analytical Method: OSHA ID-125G

Reporting Limit: 0.1 µg

Date Received: 05/24/99

Date Analyzed: 05/25/99

Customer Number	Laboratory ID Number	Requested Analysis	CONCENTRATION			T	Q	Constituent ID
			Backup	Main	Total			
904-05181999-35-001	99052110-001	Beryllium			< 0.1 µg	TR1	J	7440-41-7
904-05181999-35-002	99052110-002	Beryllium			< 0.1 µg	TR1	J	7440-41-7
904-05181999-35-003	99052110-003	Beryllium			< 0.1 µg	TR1	J	7440-41-7
904-05181999-35-004	99052110-004	Beryllium			0.4 µg	TR1		7440-41-7
904-05181999-35-005	99052110-005	Beryllium			< 0.1 µg	TR1	J	7440-41-7
904-05181999-35-006	99052110-006	Beryllium			0.3 µg	TR1		7440-41-7
904-05181999-35-007	99052110-007	Beryllium			0.2 µg	TR1		7440-41-7
904-05181999-35-008	99052110-008	Beryllium			0.1 µg	TR1		7440-41-7
904-05181999-35-009	99052110-009	Beryllium			0.2 µg	TR1		7440-41-7
904-05181999-35-010	99052110-010	Beryllium			< 0.1 µg	TR1	J	7440-41-7
904-05181999-35-011	99052110-011	Beryllium			< 0.1 µg	TR1	J	7440-41-7
904-05181999-35-012	99052110-012	Beryllium			< 0.1 µg	TR1	J	7440-41-7
904-05181999-35-013	99052110-013	Beryllium			< 0.1 µg	TR1	J	7440-41-7
904-05181999-35-014	99052110-014	Beryllium			< 0.1 µg	TR1	J	7440-41-7
904-05181999-35-015	99052110-015	Beryllium			0.2 µg	TR1		7440-41-7
904-05181999-35-016	99052110-016	Beryllium			< 0.1 µg	TR1	J	7440-41-7
904-05181999-35-017	99052110-017	Beryllium			< 0.1 µg	TR1	J	7440-41-7
904-05181999-35-018	99052110-018	Beryllium			< 0.1 µg	TR1	J	7440-41-7
904-05181999-35-019	99052110-019	Beryllium			< 0.1 µg	TR1	U	7440-41-7
904-05181999-35-020	99052110-020	Beryllium			< 0.1 µg	TR1	J	7440-41-7
904-05181999-35-021	99052110-021	Beryllium			< 0.1 µg	TR1	J	7440-41-7

MAY 26 '99 14:34 FR MTC IH LAB

303 978 3005 TO 93039664555

P.05

May 26, 1999

Laboratory Report ID: 99052110  
Laboratory Name: JMTC IH Analytical Laboratory  
Laboratory Code: JMANS  
Subcontract Number: 800221/800188SX6  
RIN: 99Z7574  
Requestor: Karen Olson  
P.O./Charge Code: NG836900

**QUICK RESULTS SUMMARY**

Line Item Code: IH01C015  
Sample Matrix: AIR  
Analytical Method: NIOSH 7300

Reporting Limit: 0.01 µg  
Date Received: 05/24/99  
Date Analyzed: 05/25/99

Customer Number	Laboratory ID Number	Requested Analysis	CONCENTRATION			T	Q	Constituent ID
			Backup	Main	Total			
904-05181999-35-022	99052110-022	Beryllium			< 0.01 µg	TR1	U	7440-41-7
904-05181999-35-023	99052110-023	Beryllium			< 0.01 µg	TR1	J	7440-41-7

136

## Be SURFACE SMEAR RESULTS (as summarized from K-H Sitewide Be Program)

SAMPLE NUMBER	BLDG	RM	SAMPLE COORDINATE NUMBER	LOCATION/DESCRIPTION	L = LESS THAN DETECTABLE LIMIT	CONCENTRATION ON FILTER (µg)	µg/100cm <sup>2</sup>
904-03081999-35-051	904	Tent 10	1	Crate	L	0.1	0.1
904-03081999-35-052	904	Tent 10	2	Asphalt pad	L	0.1	0.1
904-03081999-35-053	904	Tent 10	4	Asphalt pad	L	0.1	0.1
904-03081999-35-054	904	Tent 10	5	Asphalt pad	L	0.1	0.1
904-03081999-35-055	904	Tent 10	6	Crate	L	0.1	0.1
904-03081999-35-056	904	Tent 10	7	Asphalt pad	L	0.1	0.1
904-03081999-35-057	904	Tent 10	8	Plastic Sheeting	L	0.1	0.1
904-03081999-35-058	904	Tent 10	9	Crate	L	0.1	0.1
904-03081999-35-059	904	Tent 10	10	Asphalt pad	L	0.1	0.1
904-03081999-35-060	904	Tent 10	12	Asphalt pad	L	0.1	0.1
904-03081999-35-061	904	Tent 10	13	Asphalt pad	L	0.1	0.1
904-03081999-35-062	904	Tent 10	14	Asphalt pad	L	0.1	0.1
904-03081999-35-063	904	Tent 10	15	Asphalt pad	L	0.1	0.1
904-03081999-35-064	904	Tent 10	16	Crate	L	0.1	0.1
904-03081999-35-065	904	Tent 10	17	Crate	L	0.1	0.1
904-03081999-35-066	904	Tent 10	18	Asphalt pad	L	0.1	0.1
904-03081999-35-067	904	Tent 10	19	Asphalt pad	L	0.1	0.1
904-03081999-35-068	904	Tent 10	20	Asphalt pad	L	0.1	0.1
904-03081999-35-069	904	Tent 10	21	Crate	L	0.1	0.1
904-03081999-35-070	904	Tent 10	23	Asphalt pad	L	0.1	0.1
904-03081999-35-071	904	Tent 10	24	Asphalt pad	L	0.1	0.1
904-03081999-35-072	904	Tent 10	25	Asphalt pad	L	0.1	0.1
904-03081999-35-073	904	Tent 10	26	Asphalt pad	L	0.1	0.1
904-03081999-35-074	904	Tent 10	27	Crate	L	0.1	0.1
904-03081999-35-075	904	Tent 10	28	Asphalt pad	L	0.1	0.1
904-03081999-35-076	904	Tent 10	29	Asphalt pad	L	0.1	0.1
904-03081999-35-077	904	Tent 10	30	Asphalt pad	L	0.1	0.1
904-03081999-35-078	904	Tent 10	32	Asphalt pad	L	0.1	0.1
904-03081999-35-079	904	Tent 10	33	Asphalt pad	L	0.1	0.1
904-03081999-35-080	904	Tent 10	34	Poly Tank	L	0.1	0.1
904-03081999-35-081	904	Tent 10	35	Asphalt pad	L	0.1	0.1
904-03081999-35-082	904	Tent 10	36	Asphalt pad	L	0.1	0.1

## Be SURFACE SMEAR RESULTS (as summarized from K-H Sitewide Be Program)

SAMPLE NUMBER	BLDG	RM	SAMPLE COORDINATE NUMBER	LOCATION/DESCRIPTION	L = LESS THAN DETECTABLE LIMIT	CONCENTRATION ON FILTER (µg)	µg/100cm <sup>2</sup>
904-03081999-35-083	904	Tent 10	37	Asphalt pad	L	0.1	0.1
904-03081999-35-084	904	Tent 10	38	Asphalt pad	L	0.1	0.1
904-03081999-35-085	904	Tent 10	39	Asphalt pad	L	0.1	0.1
904-03081999-35-086	904	Tent 10	40	Asphalt pad	L	0.1	0.1
904-03081999-35-087	904	Tent 10	41	Asphalt pad	L	0.1	0.1
904-03081999-35-088	904	Tent 10	42	Asphalt pad	L	0.1	0.1
904-03081999-35-089	904	Tent 10	43	Asphalt pad	L	0.1	0.1
904-03081999-35-090	904	Tent 10	44	Asphalt pad	L	0.1	0.1
904-03081999-35-091	904	Tent 10	45	Asphalt pad	L	0.1	0.1
904-03081999-35-092	904	Tent 10	46	Asphalt pad	L	0.1	0.1
904-03081999-35-093	904	Tent 10	47	Asphalt pad	L	0.1	0.1
904-03081999-35-094	904	Tent 10	48	Asphalt pad	L	0.1	0.1
904-03081999-35-095	904	Tent 10	49	Asphalt pad	L	0.1	0.1
904-05181999-35-001	904 TENT 10	Permacon	1	Cement pump	L	0.1	0.1
904-05181999-35-002	904 TENT 10	Permacon	1	Floor	L	0.1	0.1
904-05181999-35-003	904 TENT 10	Permacon	2	Hopper 438-019	L	0.1	0.1
904-05181999-35-004	904 TENT 10	Permacon	2	Floor		0.4	0.4
904-05181999-35-005	904 TENT 10	Permacon	3	Cement pump	L	0.1	0.1
904-05181999-35-006	904 TENT 10	Permacon	3	Floor		0.3	0.3
904-05181999-35-007	904 TENT 10	Permacon	4	Floor		0.2	0.2
904-05181999-35-008	904 TENT 10	Permacon	5	Floor		0.1	0.1
904-05181999-35-009	904 TENT 10	Permacon	6	Floor		0.2	0.2
904-05181999-35-010	904 TENT 10	Permacon	7	Ladder 4th rung from top	L	0.1	0.1
904-05181999-35-011	904 TENT 10	Permacon	7	Ladder bottom rung	L	0.1	0.1
904-05181999-35-012	904 TENT 10	Permacon	7	Floor	L	0.1	0.1
904-05181999-35-013	904 TENT 10	Permacon	8	Floor	L	0.1	0.1
904-05181999-35-014	904 TENT 10	Permacon	9	Floor	L	0.1	0.1
904-05181999-35-015	904 TENT 10	Permacon	10	Floor		0.2	0.2
904-05181999-35-016	904 TENT 10	Permacon	11	Floor	L	0.1	0.1
904-05181999-35-017	904 TENT 10	Permacon	12	Floor	L	0.1	0.1
904-05181999-35-018	904 TENT 10	Permacon	Selective	Hood 2	L	0.1	0.1
904-05181999-35-019	904 TENT 10	Permacon	Selective	Floor 22,3	L	0.1	0.1

904 PAD

## PERSONAL AIR SAMPLES

BUILDING	SAMPLE NUMBER	PRE FLOW	POST FLOW	SAMPLE TIME MINUTES	SAMPLE VOLUME LITERS	L = <LOD	TOTAL ON FILTER (µg)	CONCENTR ATION (µg/m³)	8 HOUR TWA (µg/m³)
904 pad	904-03081999-35-161	2.63	2.67	107	284	L	0.01	0.04	0.008
904 pad	904-03081999-35-162					L	0.01	BLANK	
904 pad	904-03081999-35-163	2.61	2.58	163	424	L	0.01	0.02	0.008
904 pad	904-03081999-35-164					L	0.01	BLANK	
904 pad	904-04061999-35-076	2.68	2.71	113	305	L	0.01	0.03	0.007
904 pad	904-04061999-35-077					L	0.01	BLANK	
904 pad	904-05181999-35-022	2.57	2.52	33	84	L	0.01	0.1	0.008
	904-05181999-35-023					L	0.01	BLANK	

### **Appendix E.3.1.5**

#### **Pad 904 Tent 10 Historical Chemical Data**

#### **Beryllium**

#### **Upper Confidence Limits on Beryllium**



Tent 10 Permacon		Be	
random samp #, description	(ug/100cm2)	nat log	
1, cement pump	0.1	-2.3026	
1, floor	0.1	-2.3026	
2, hopper 438-019	0.1	-2.3026	
2, floor	0.4	-0.9163	
3, cement pump	0.1	-2.3026	
3, floor	0.3	-1.2040	
4, floor	0.2	-1.6094	
5, floor	0.1	-2.3026	
6, floor	0.2	-1.6094	
7, ladder (rung 4 from top)	0.1	-2.3026	
7, ladder (bottom rung)	0.1	-2.3026	
7, floor	0.1	-2.3026	
8, floor	0.1	-2.3026	
9, floor	0.1	-2.3026	
10, floor	0.2	-1.6094	
11, floor	0.1	-2.3026	
12, floor	0.1	-2.3026	
variance		normal	log trans
N =		0.0076	0.2090
Student's t statistic (0.1) Alpha		17	17
Student's t statistic (0.1) Beta		1.337	1.337
mean		1.337	1.337
Action Level		0.147	-2.034
90% UCL on mean of lognorm dist <sup>1</sup>		0.2	-1.609
EPA G-4, Appdx C		1.20	
# of samples for 95% CL		20	9
<sup>1</sup> H statistic = 1.32			

# **Appendix D**

**Bldg. 910**

## **Appendix D.1**

### **Bldg. 910 RLC Radiological Data**

## **Appendix D.1.1**

### **Bldg. 910 RLC Radiological Data**

#### **Radiological Surveys**

# ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

62

## INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model BC-4	Model BC-4	Model SAC-4
Serial # 838	Serial # 874	Serial # 959
Cal Due 7/13/99	Cal Due 6/7/99	Cal Due 7/5/99
Bkg. 39	Bkg. 39	Bkg. 0.0
Efficiency 25%	Efficiency 25%	Efficiency 33%
MDA <200	MDA <200	MDA <20

Mfg. EBERLINE	Mfg. NE TECH	Mfg. NE TECH
Model SAC-4	Model ELECTRA	Model ELECTRA
Serial # 1188	Serial # 2343	Serial # 2343
Cal Due 6/16/99	Cal Due 8-12-99	Cal Due 8-12-99
Bkg. 0.1	Bkg. 3	Bkg. 8
Efficiency 33%	Efficiency 22.0%	Efficiency 32.0%
MDA <20	MDA 49	MDA 307

Survey Type: Contamination Survey

Building: 910

Location:

Purpose: CHARACTERIZATION SURVEYS

RWP #: - N/A -

Date: 04-09-99 Time: 1500

RCT: Rex SNYDER / Rex Snyder  
Print name Signature

RCT: N / A /  
Print name Signature Emp. #

PRL #:

Comments 1-10 Taken on Exterior 11-20 Interior for Paint Sampling

All Results Are In dpm/100cm<sup>2</sup>.

**COPY**

## SURVEY RESULTS

Removable		Direct		Removable		Direct	
Alpha	Beta	Alpha	Beta	Alpha	Beta	Alpha	Beta
1. < 20	< 200	54	783	23. /	/	/	/
2. < 20	< 200	66	981	24. /	/	/	/
3. < 20	< 200	< 49	627	25. /	/	/	/
4. < 20	< 200	72	327	26. /	/	/	/
5. < 20	< 200	< 49	573	27. /	/	/	/
6. < 20	< 200	54	498	28. /	/	/	/
7. < 20	< 200	72	672	29. /	/	/	/
8. < 20	< 200	< 49	471	30. /	/	/	/
9. < 20	< 200	66	804	31. /	/	/	/
10. < 20	< 200	78	774	32. /	/	/	/
11. < 20	< 200	< 49	1023	33. /	N	A	/
12. < 20	< 200	< 49	1074	34. /	/	/	/
13. < 20	< 200	< 49	798	35. /	/	/	/
14. < 20	< 200	< 49	1104	36. /	/	/	/
15. < 20	< 200	< 49	999	37. /	/	/	/
16. < 20	< 200	< 49	834	38. /	/	/	/
17. < 20	< 200	< 49	981	39. /	/	/	/
18. < 20	< 200	< 49	927	40. /	/	/	/
19. < 20	< 200	< 49	1008	41. /	/	/	/
20. < 20	< 200	< 49	1023	42. /	/	/	/
21. /	/	A	/	43. /	/	/	/
22. /	/	/	/	44. /	/	/	/

Date 4/14/99 RS Supervision: LN Cooper

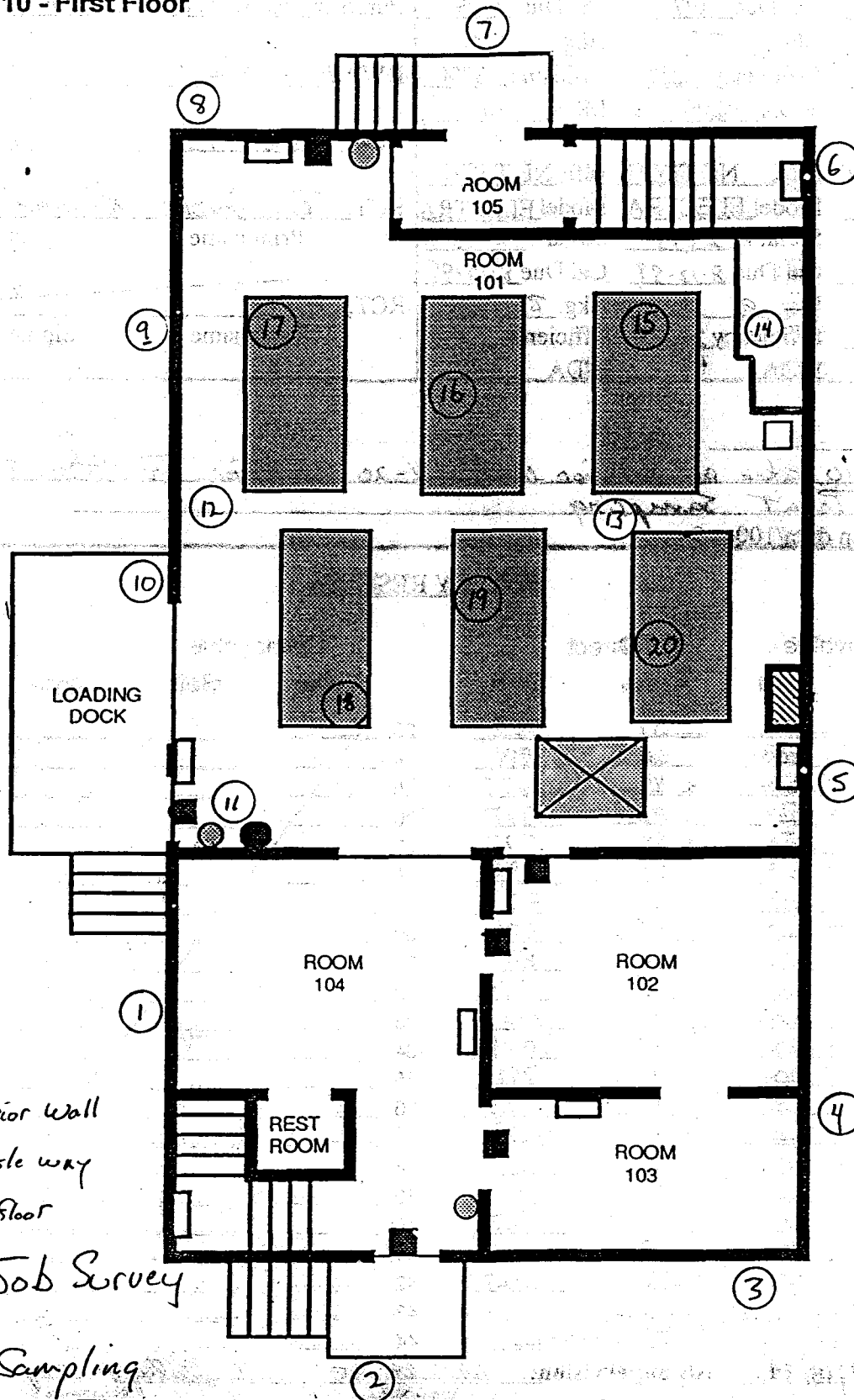
Print Name

Signature

# ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## RADIOLOGICAL SAFETY Drawing Showing Survey Points

Building 910 - First Floor



Note:  
1 to 10 Exterior Wall  
11, 12, 13 aisle way  
14 to 20 on floor

Pre-Job Survey  
for  
Paint Sampling



146

# ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## INSTRUMENT DATA

Mfg. EBERLINE Mfg. EBERLINE Mfg. EBERLINE			Survey Type: Contamination Survey	
Model BC-4	Model BC-4	Model SAC-4	Building: 910	
Serial # 838	Serial # 874	Serial # 959	Location:	
Cal Due 7/13/99	Cal Due 6/7/99	Cal Due 7/5/99	Purpose: CHARACTERIZATION SURVEYS	
Bkg. 39	Bkg. 39	Bkg. 0.0	RWP #: - N/A -	
Efficiency 25%	Efficiency 25%	Efficiency 33%	Date: 04-09-99 Time: 1500	
MDA <200	MDA <200	MDA <20		
Mfg. EBERLINE	Mfg. NE TECH	Mfg. NE TECH	RCT: Rex SNYDER 1 <i>[Signature]</i> <span style="background-color: black; color: black;">[Redacted]</span>	
Model SAC-4	Model ELECTRA	Model ELECTRA	Print name Signature Emp. #	
Serial # 1188	Serial # 2243	Serial # 2343	RCT: IV 1 A 1	
Cal Due 6/16/99	Cal Due 8-12-99	Cal Due 8-12-99	Print name Signature Emp. #	
Bkg. 0.1	Bkg. 3	Bkg. 3 460		
Efficiency 33%	Efficiency 22.0%	Efficiency 32.0%		
MDA <20	MDA 49	MDA 207		

PRL #:

Comments: Pre Job Survey for Paint Sampling - All survey points on Floor. Plus Direct Scan 1m<sup>2</sup> at all points

All Results Are In dpm/100cm<sup>2</sup>.

## SURVEY RESULTS

Removable		Direct		Removable		Direct	
Alpha	Beta	Alpha	Beta	Alpha	Beta	Alpha	Beta
1. < 20	< 200	< 49	1167	23. <del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>
2. < 20	< 200	< 49	927	24. <del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>
3. < 20	< 200	< 49	984	25. <del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>
4. < 20	< 200	< 49	618	26. <del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>
5. < 20	< 200	< 49	660	27. <del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>
6. < 20	< 200	< 49	810	28. <del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>
7. < 20	< 200	< 49	1026	29. <del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>
8. < 20	< 200	< 49	1044	30. <del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>
9. < 20	< 200	< 49	876	31. <del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>
10. < 20	< 200	< 49	927	32. <del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>
11. <del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>	33. <del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>
12. <del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>	34. <del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>
13. <del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>	35. <del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>
14. <del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>	36. <del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>
15. <del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>	37. <del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>
16. <del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>	38. <del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>
17. <del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>	39. <del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>
18. <del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>	40. <del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>
19. <del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>	41. <del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>
20. <del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>	42. <del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>
21. <del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>	43. <del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>
22. <del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>	44. <del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>

Date 9/14/99  
147

RS Supervision: *W Cooper*  
Print Name

*[Signature]*  
Signature

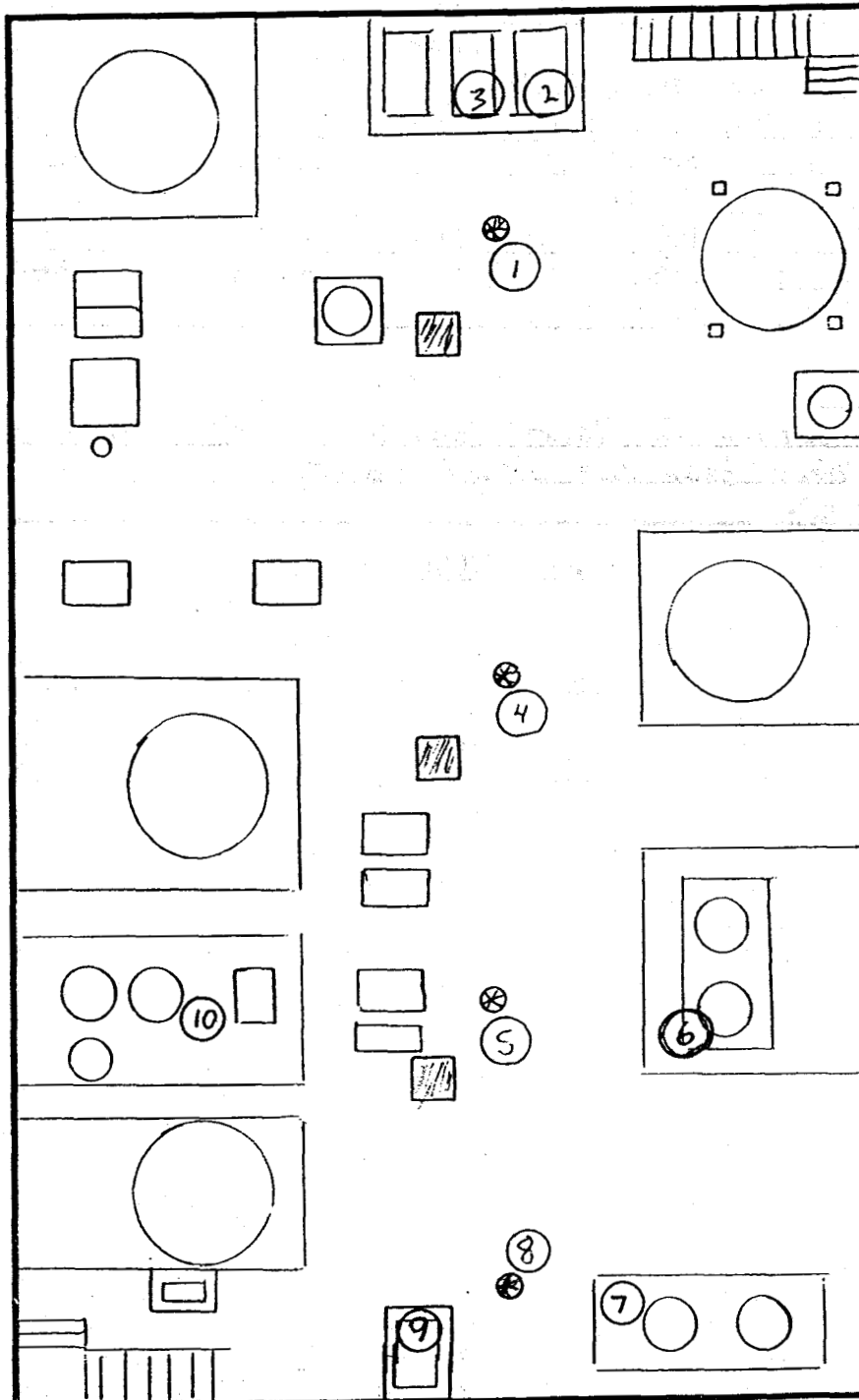
**ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SHT**

**RADIOLOGICAL SAFETY**  
**Drawing Showing Survey Points**

Building 910 - Basement

⊕ = Drains

▨ = Support



*Pre Job  
Survey  
for  
Paint  
Sampling*





## ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model SAC-4	Model SAC-4	Model SAC-4
Serial # <u>835</u>	Serial # <u>842</u>	Serial # <u>838</u>
Cal Due <u>4-26-99</u>	Cal Due <u>6-9-99</u>	Cal Due <u>7-13-99</u>
Bkg. <u>0.2</u>	Bkg. <u>0.0</u>	Bkg. <u>44</u>
Efficiency <u>33%</u>	Efficiency <u>33%</u>	Efficiency <u>25%</u>
MDA <u>20 dpm</u>	MDA <u>20 dpm</u>	MDA <u>200 dpm</u>
Mfg. EBERLINE	Mfg. NE.TECH	Mfg. NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # <u>874</u>	Serial # <u>1680</u>	Serial # <u>1556</u>
Cal Due <u>7-21-99</u>	Cal Due <u>8-10-99</u>	Cal Due <u>9-22-99</u>
Bkg. <u>43</u>	Bkg. <u>5</u> / <u>615</u>	Bkg. <u>7</u> / <u>772</u>
Efficiency <u>25%</u>	Efficiency <u>22.9</u> / <u>34.7</u>	Efficiency <u>22.3</u> / <u>32.1</u>
MDA <u>200 dpm</u>	MDA <u>57</u> / <u>340</u>	MDA <u>67</u> / <u>411</u>

## Survey Type: CONTAMINATION

Building: 910  
 Location: Main Floor  
 Purpose: Post Job survey Paint Sampling

RWP #: N/A  
 Date: 4-15-99 Time: 1530

RCT: HERSEY / Hansen  
 Print name Signature  
 RCT: P. ATKINSON / P. Atkinson  
 Print name Signature

PRL #:                       
 Comments:                     

**COPY**

## SURVEY RESULTS

REMOVABLE		DIRECT			REMOVABLE		DIRECT	
ALPHA	BETA	ALPHA	BETA		ALPHA	BETA	ALPHA	BETA
1. <20	<200	<57	556	23.				
2. <20	<200	<57	516	24.				
3. <20	<200	<57	671	25.				
4. <20	<200	<57	585	26.				
5. <20	<200	<57	516	27.				
6. <20	<200	<57	<340	28.				
7. <20	<200	<57	536	29.				
8. <20	<200	<57	599	30.				
9. <20	<200	<57	<340	31.				
10. <20	<200	<57	665	32.				
11.				33.				
12.				34.				
13.				35.				
14.				36.				
15.				37.				
16.				38.				
17.				39.				
18.				40.				
19.				41.				
20.				42.				
21.				43.				
22.				44.				

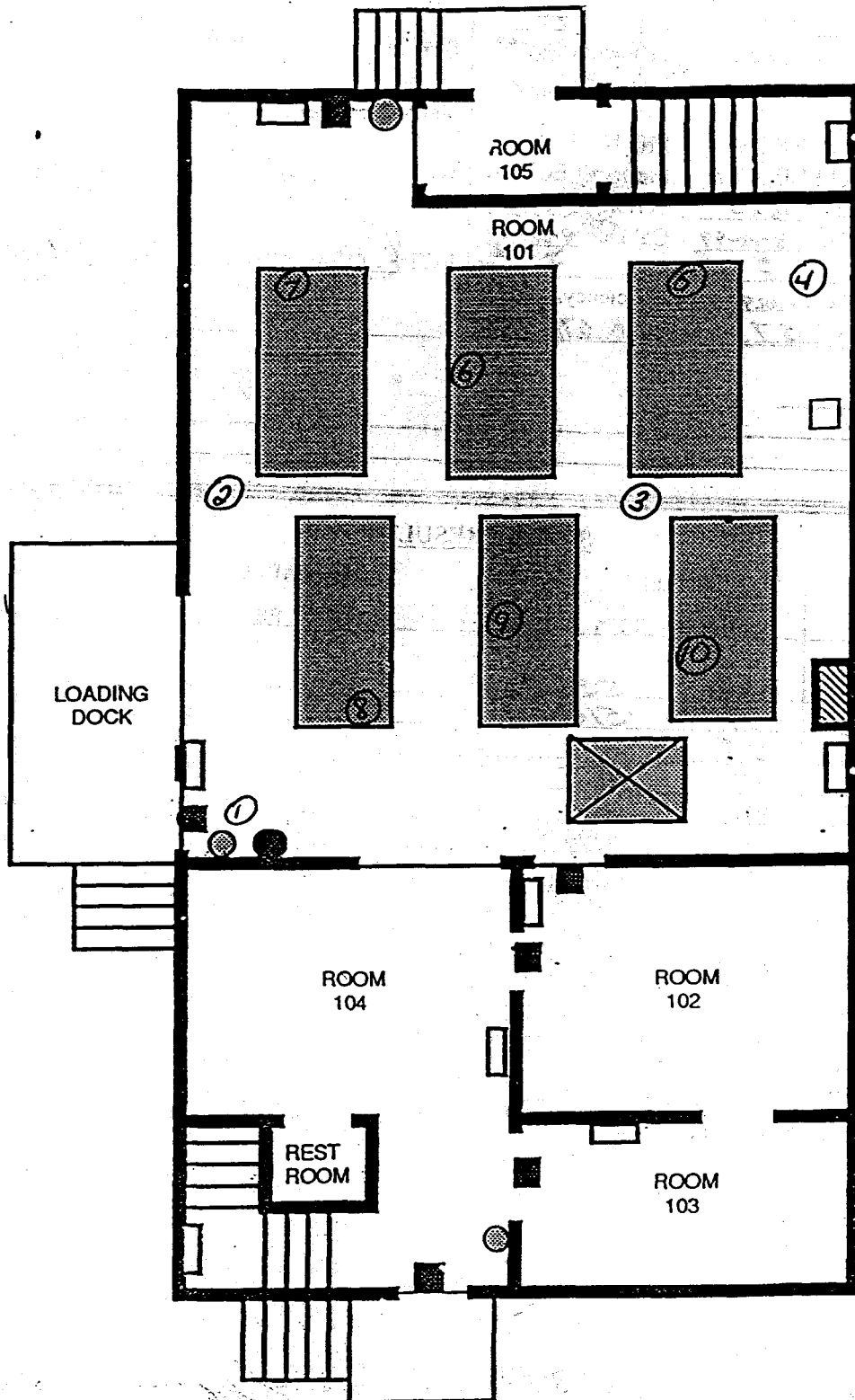
Date Reviewed: 4-15-99 RS Supervision: G. E. OSBURN  
 Print Name

Signature

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SH

RADIOLOGICAL SAFETY  
Drawing Showing Survey Points

Building 910 - First Floor



150

## ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model SAC-4	Model SAC-4	Model SAC-4
Serial # <u>835</u>	Serial # <u>842</u>	Serial # <u>838</u>
Cal Due <u>4-26-99</u>	Cal Due <u>6-9-99</u>	Cal Due <u>7-13-99</u>
Bkg. <u>0.2</u>	Bkg. <u>0.0</u>	Bkg. <u>44</u>
Efficiency <u>33%</u>	Efficiency <u>33%</u>	Efficiency <u>25%</u>
MDA <u>20 dpm</u>	MDA <u>20 dpm</u>	MDA <u>200 dpm</u>
Mfg. EBERLINE	Mfg. NE. TECH	Mfg. NE. TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # <u>874</u>	Serial # <u>    </u>	Serial # <u>1556</u>
Cal Due <u>7-21-99</u>	Cal Due <u>    </u>	Cal Due <u>9-22-99</u>
Bkg. <u>43</u>	Bkg. <u>    </u>	Bkg. <u>7</u>
Efficiency <u>25%</u>	Efficiency <u>    </u>	Efficiency <u>22.3</u>
MDA <u>200 dpm</u>	MDA <u>    </u>	MDA <u>67</u>

Survey Type: CONTAMINATIONBuilding: 910Location: BasementPurpose: Post Job survey Paint SamplingRWP #: N/ADate: 4-15-99 Time: 1530RCT: HERSEY  
Print nameHersey  
SignatureRCT: STIKINSON  
Print nameStikinson  
SignatureEmp. #     **COPY**PRL #:     Comments:     

## SURVEY RESULTS

REMOVABLE		DIRECT		REMOVABLE		DIRECT	
ALPHA	BETA	ALPHA	BETA	ALPHA	BETA	ALPHA	BETA
1. <u>&lt;20</u>	<u>&lt;200</u>	<u>&lt;67</u>	<u>485</u>	23. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>
2. <u>&lt;20</u>	<u>&lt;200</u>	<u>&lt;67</u>	<u>&lt;411</u>	24. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>
3. <u>&lt;20</u>	<u>&lt;200</u>	<u>&lt;67</u>	<u>436</u>	25. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>
4. <u>&lt;20</u>	<u>&lt;200</u>	<u>&lt;67</u>	<u>&lt;411</u>	26. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>
5. <u>&lt;20</u>	<u>&lt;200</u>	<u>&lt;67</u>	<u>455</u>	27. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>
6. <u>&lt;20</u>	<u>&lt;200</u>	<u>&lt;67</u>	<u>411</u>	28. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>
7. <u>&lt;20</u>	<u>&lt;200</u>	<u>&lt;67</u>	<u>632</u>	29. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>
8. <u>&lt;20</u>	<u>&lt;200</u>	<u>&lt;67</u>	<u>&lt;411</u>	30. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>
9. <u>&lt;20</u>	<u>&lt;200</u>	<u>&lt;67</u>	<u>&lt;411</u>	31. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>
10. <u>&lt;20</u>	<u>&lt;200</u>	<u>&lt;67</u>	<u>&lt;411</u>	32. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>
11. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	33. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>
12. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	34. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>
13. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	35. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>
14. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	36. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>
15. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	37. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>
16. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	38. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>
17. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	39. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>
18. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	40. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>
19. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	41. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>
20. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	42. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>
21. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	43. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>
22. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	44. <u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>

Date Reviewed: 4-15-99 RS Supervision: G. E. OSBURN

Print Name

Signature

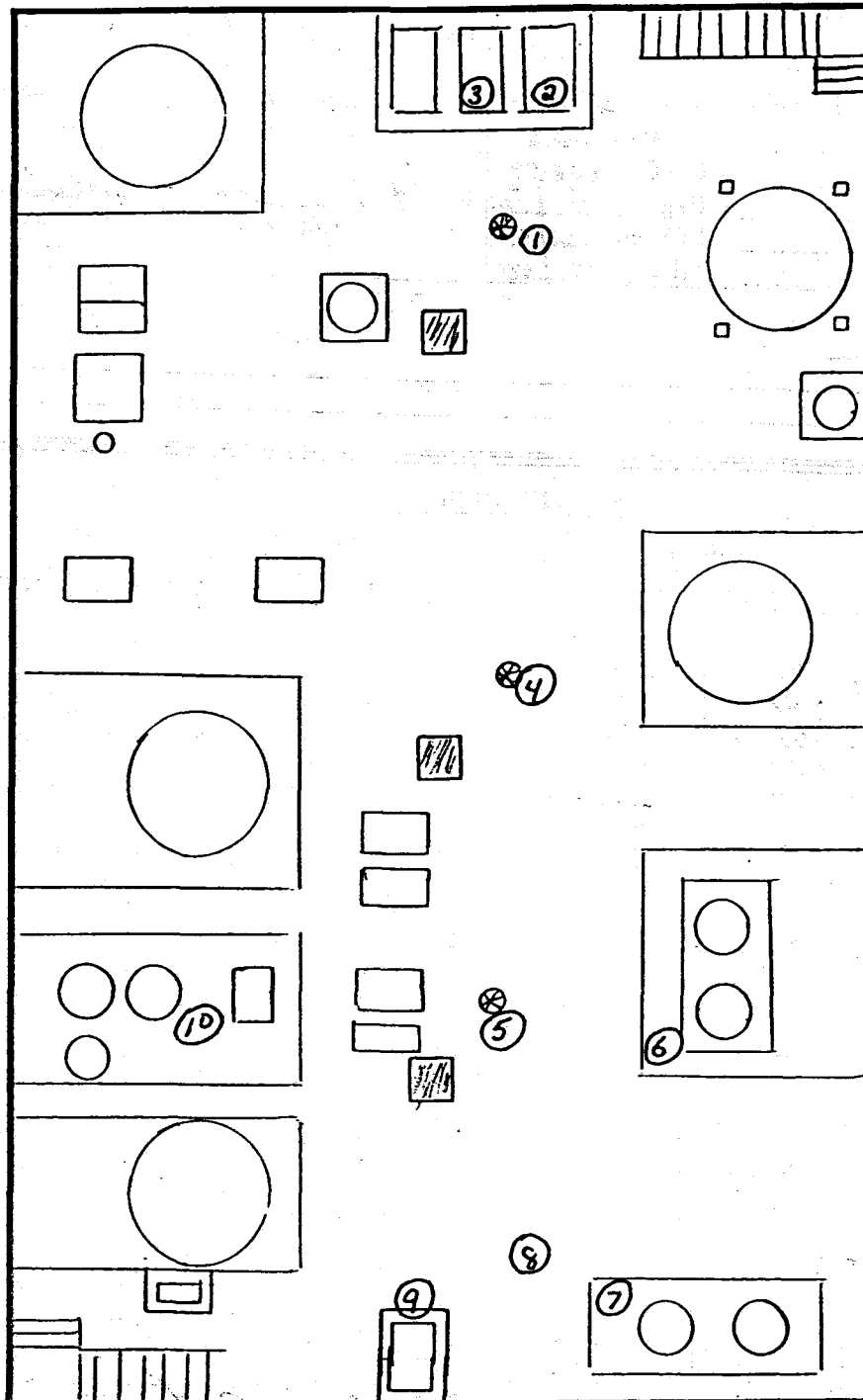
# ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## RADIOLOGICAL SAFETY Drawing Showing Survey Points

### Building 910 - Basement

⊗ = Drains

▨ = Support



152

## ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## INSRUMENT DATA

Mfg. Elecline Model 5AC-Y Serial# 835 Cal Due 4-26-99 Bkg. 0.2 Efficiency 33% MDA 20 dpm  
 Mfg. Elecline Model 5AC-Y Serial# 842 Cal Due 6-9-99 Bkg. 0.0 Efficiency 33% MDA 20 dpm  
 Mfg. Elecline Model 5AC-Y Serial# 842 Cal Due 6-9-99 Bkg. 0.0 Efficiency 33% MDA 20 dpm  
 Mfg. Elecline Model 8C-Y Serial# 838 Cal Due 7-13-99 Bkg. 44 Efficiency 25% MDA 200 dpm  
 Mfg. Elecline Model 8C-Y Serial# 874 Cal Due 7-21-99 Bkg. 43 Efficiency 25% MDA 200 dpm  
 Mfg. NeTech Model Electra Serial# 1680 Cal Due 8-10-99 Bkg. 5 Efficiency 22% MDA 57

Survey Type: contaminationBuilding: 410Location: N/APurpose: Paint SamplesRWP #: N/ADate: 4/15/99Time: 1530RCT: Hersey  
Print name

Signature

RCT: R. ATKINSON  
Print name

Signature

COPY

PRL #: 9415-99

Comments: 4442 Sample Bottles of Paint chips #99AL6331 Events 011-7033  
Bottle 001 and 002  
Exterior of sample vials only not interior or paint chip  
Equipment blanked (liquid from equipment)

## SURVEY RESULTS

#	Location/Description Results in DPM/100CM <sup>2</sup>	Removable		Total		Swipe #	Location/Description Results in DPM/100CM <sup>2</sup>	Removable		Total	
		Alpa	Beta	Alpa	Beta			Alpa	Beta	Alpa	Beta
1	<u>Typical sample</u>	<u>&lt;20</u>	<u>&lt;200</u>	<u>&lt;52</u>	<u>&lt;340</u>	16					
2						17					
3						18					
4						19					
5						20					
6						21					
7						22					
8						23					
9						24					
10						25					
11						26					
12						27					
13						28					
14						29					
						30					

Date Reviewed: 4-15-99

RS Supervision:

G. E. OSBURN

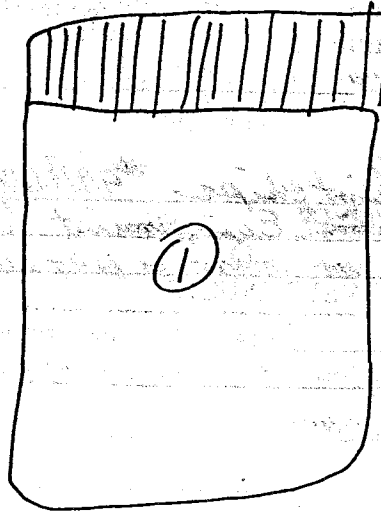
Print Name

Signature

**ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE**

**RADIOLOGICAL SAFETY**

Drawing Showing Survey Points



# ROCKY PLATS ENVIRONMENTAL TECHNOLOGY SITE

## INSRUMENT DATA

Mfg. EBERLINE Mfg. EBERLINE Mfg. 4-20-99  
 Model SAC-4 Model BC-4 Model 4-20-99  
 Serial# 824 Serial# 838 Serial# 4-20-99  
 Cal Due 10-13-99 Cal Due 7-13-99 Cal Due 4-20-99  
 Bkg. 0.0 Bkg. 40 Bkg. 4-20-99  
 Efficiency .33 Efficiency .25 Efficiency 4-20-99  
 MDA 20 MDA 200 MDA 4-20-99

Mfg. EBERLINE Mfg. EBERLINE Mfg. NE TECH  
 Model SAC-4 Model BC-4 Model ELECTRA  
 Serial# 842 Serial# 874 Serial# 1680  
 Cal Due 6-9-99 Cal Due 6-7-99 Cal Due 8-10-99  
 Bkg. 0.1 Bkg. 41 Bkg. 4.0 B 526  
 Efficiency .33 Efficiency .25 Efficiency 22.7 A 34.7  
 MDA 20 MDA 200 MDA 52 / 315

Survey Type: CONTAMINATION  
 Building: 910  
 Location: OUTSIDE WALLS OF BUD.  
 Purpose: COLLECT PAINT SAMPLES ON OUTSIDE OF BUD.  
 RWP #: 99-991-0044  
 Date: 4-20-99 Time: 1530  
 RCT: KENT J. STOVALL [Signature]  
 Print name Signature  
 RCT: / /  
 Print name Signature Emp. #

PRL #: NA

Comments: EXTERIOR WALL SURVEY POINTS ONLY.

**COPY**

## SURVEY RESULTS

Type #	Location/Description Results in DPM/100CM <sup>2</sup>	Removable		Total		Swipe #	Location/Description Results in DPM/100CM <sup>2</sup>	Removable		Total	
		Alpa	Beta	Alpa	Beta			Alpa	Beta	Alpa	Beta
1	Loc. #1 (SEE MAP) PRE	<20	<200	<52	<315	16	POST	<20	<200	<52	<315
2	POST	<20	<200	<52	<315	17	Loc. #9 PRE	<20	<200	<52	<315
3	Loc. #2 PRE	<20	<200	<52	<315	18	POST	<20	<200	<52	<315
4	POST	<20	<200	<52	<315	19	Loc. #10 PRE	<20	<200	<52	<315
5	Loc. #3 PRE	<20	<200	<52	<315	20	POST	<20	<200	<52	<315
6	POST	<20	<200	<52	<315	21	4-20-99 KES				
7	Loc. #4 PRE	<20	<200	<52	<315	22					
8	POST	<20	<200	<52	<315	23					
9	Loc. #5 PRE	<20	<200	<52	<315	24					
10	POST	<20	<200	<52	<315	25					
11	Loc. #6 PRE	<20	<200	<52	<315	26					
12	POST	<20	<200	<52	<315	27					
13	Loc. #7 PRE	<20	<200	<52	<315	28					
14	POST	<20	<200	<52	<315	29					
15	Loc. #8 PRE	<20	<200	<52	<315	30					

Date Reviewed: 4/21/99

RS Supervision: LN Cooper

Print Name

Signature

Page of

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

4-20-99  
EJ

156



Pg. 1 of 2

## ROCKY PLATS ENVIRONMENTAL TECHNOLOGY SITE

## INSRUMENT DATA

Mfg. <u>EBERLINE</u>	Mfg. <u>EBERLINE</u>	Mfg. <u>EBERLINE</u>
Model <u>SAC-4</u>	Model <u>SAC-4</u>	Model <u>SAC-4</u>
Serial# <u>824</u>	Serial# <u>842</u>	Serial# <u>842</u>
Cal Due <u>10-13-99</u>	Cal Due <u>7-13-99</u>	Cal Due <u>7-13-99</u>
Bkg. <u>0.0</u>	Bkg. <u>0.1</u>	Bkg. <u>0.1</u>
Efficiency <u>.33</u>	Efficiency <u>.33</u>	Efficiency <u>.33</u>
MDA <u>20</u>	MDA <u>20</u>	MDA <u>20</u>

Survey Type: CONTAMINATIONBuilding: 910Location: EXTERIOR WALLSPurpose: SAMPLE BOTTLE SURVEYRWP #: 99-991-0044Date: 4-20-99Time: 1545RCT: KENT S. STOWAN

Print name

Signature

RCT:

Print name

Signature

Emp. #

COPY

PRL #:

Comments: SAMPLE BOTTLES FROM EXTERIOR WALL, PAINT SAMPLES  
Bld. 910

## SURVEY RESULTS

#	Location/Description Results in DPM/100CM <sup>2</sup>	Removable		Total		Swipe #	Location/Description Results in DPM/100CM <sup>2</sup>	Removable		Total	
		Alpa	Beta	Alpa	Beta			Alpa	Beta	Alpa	Beta
1	99AL6331-031.001	<20	<200			16	99AL6331-007.002	<20	<200		
2	" " .002	<20	<200			17	-008.001	<20	<200		
3	-001.001	<20	<200			18	-008.002	<20	<200		
4	-001.002	<20	<200			19	-009.001	<20	<200		
5	-002.001	<20	<200			20	-009.002	<20	<200		
6	-002.002	<20	<200			21	-010.001	<20	<200		
7	-003.001	<20	<200			22	-010.002	<20	<200		
8	-003.002	<20	<200			23					
9	-004.001	<20	<200			24					
10	-004.002	<20	<200			25					
11	-005.001	<20	<200			26					
12	-005.002	<20	<200			27					
13	-006.001	<20	<200			28					
14	-006.002	<20	<200			29					
15	-007.001	<20	<200			30					

Date Reviewed: 4/21/99 RS Supervision:C. Cooper  
Print Name1. Letty Moog  
Signature

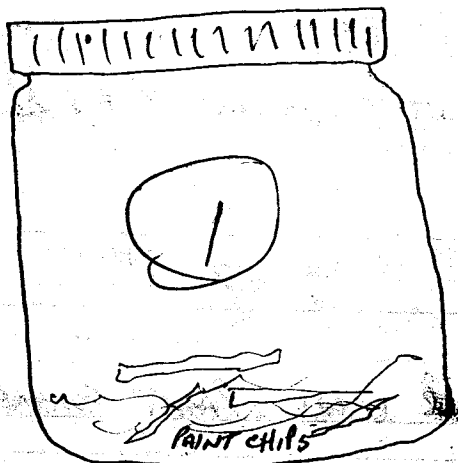
Emp. #

157

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points



# ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## INSTRUMENT DATA

Mfg. EBERLINE Mfg. EBERLINE Mfg. EBERLINE			Survey Type: Contamination Survey	
Model BC-4	Model BC-4	Model SAC-4	Building: 910	
Serial # 838	Serial # 874	Serial # 959	Location:	
Cal Due 7/13/99	Cal Due 6/7/99	Cal Due 7/5/99	Purpose: CHARACTERIZATION SURVEYS	
Bkg. 45	Bkg. 40	Bkg. 0.0	RWP #: -NA-	
Efficiency 25%	Efficiency 25%	Efficiency 33%	Date: 04-22-99 Time: 1600	
MDA <200	MDA <200	MDA <20		
Mfg. EBERLINE	Mfg. NE TECH	Mfg. NE TECH		
Model SAC-4	Model ELECTRA	Model ELECTRA	RCT: Rex Snyder / R. Snyder	
Serial # 1188	Serial # 1680	Serial # 1680	Print name Signature	
Cal Due 6/16/99	Cal Due 8-10-99	Cal Due 8-10-99		
Bkg. 0.1	Bkg. 5	Bkg. 512	RCT: N / A /	
Efficiency 33%	Efficiency 22.9%	Efficiency 34.7%	Print name Signature Emp. #	
MDA <20	MDA 59	MDA 323		

PRL #:

Comments: Survey Points floor + walls < 2 meter + Building Systems < 2 meters  
on top floor Plus direct scan at points 1 m<sup>2</sup>

All Results Are In dpm/100cm<sup>2</sup>.

## SURVEY RESULTS

Removable		Direct		Removable		Direct	
Alpha	Beta	Alpha	Beta	Alpha	Beta	Alpha	Beta
1. < 20	< 200	< 59	1614	23. < 20	< 200	< 59	< 323
2. < 20	< 200	< 59	834	24. < 20	< 200	< 59	1107
3. < 20	< 200	< 59	378	25. < 20	< 200	< 59	< 323
4. < 20	< 200	< 59	897	26. < 20	< 200	< 59	1278
5. < 20	< 200	< 59	732	27. < 20	< 200	< 59	< 323
6. < 20	< 200	< 59	885	28. < 20	< 200	< 59	< 323
7. < 20	< 200	< 59	241	29. < 20	< 200	< 59	578
8. < 20	< 200	< 59	942	30. < 20	< 200	< 59	< 323
9. < 20	< 200	< 59	843	31. < 20	< 200	< 59	594
10. < 20	< 200	< 59	729	32. < 20	< 200	< 59	507
11. < 20	< 200	< 59	639	33. < 20	< 200	< 59	402
12. < 20	< 200	< 59	705	34. < 20	< 200	< 59	< 323
13. < 20	< 200	< 59	894	35. < 20	< 200	< 59	< 323
14. < 20	< 200	< 59	972	36. < 20	< 200	< 59	< 323
15. < 20	< 200	< 59	816	37. < 20	< 200	< 59	< 323
16. < 20	< 200	< 59	1128	38. < 20	< 200	< 59	< 323
17. < 20	< 200	< 59	816	39. < 20	< 200	< 59	< 323
18. < 20	< 200	< 59	639	40. < 20	< 200	< 59	< 323
19. < 20	< 200	< 59	423	41. < 20	< 200	< 59	< 323
20. < 20	< 200	< 59	1080	42. < 20	< 200	< 59	< 323
21. < 20	< 200	< 59	762	43. < 20	< 200	< 59	< 323
22. < 20	< 200	< 59	1116	44. < 20	< 200	< 59	< 323

Date

4/26/99

RS Supervision:

UNCOOPER

Print Name

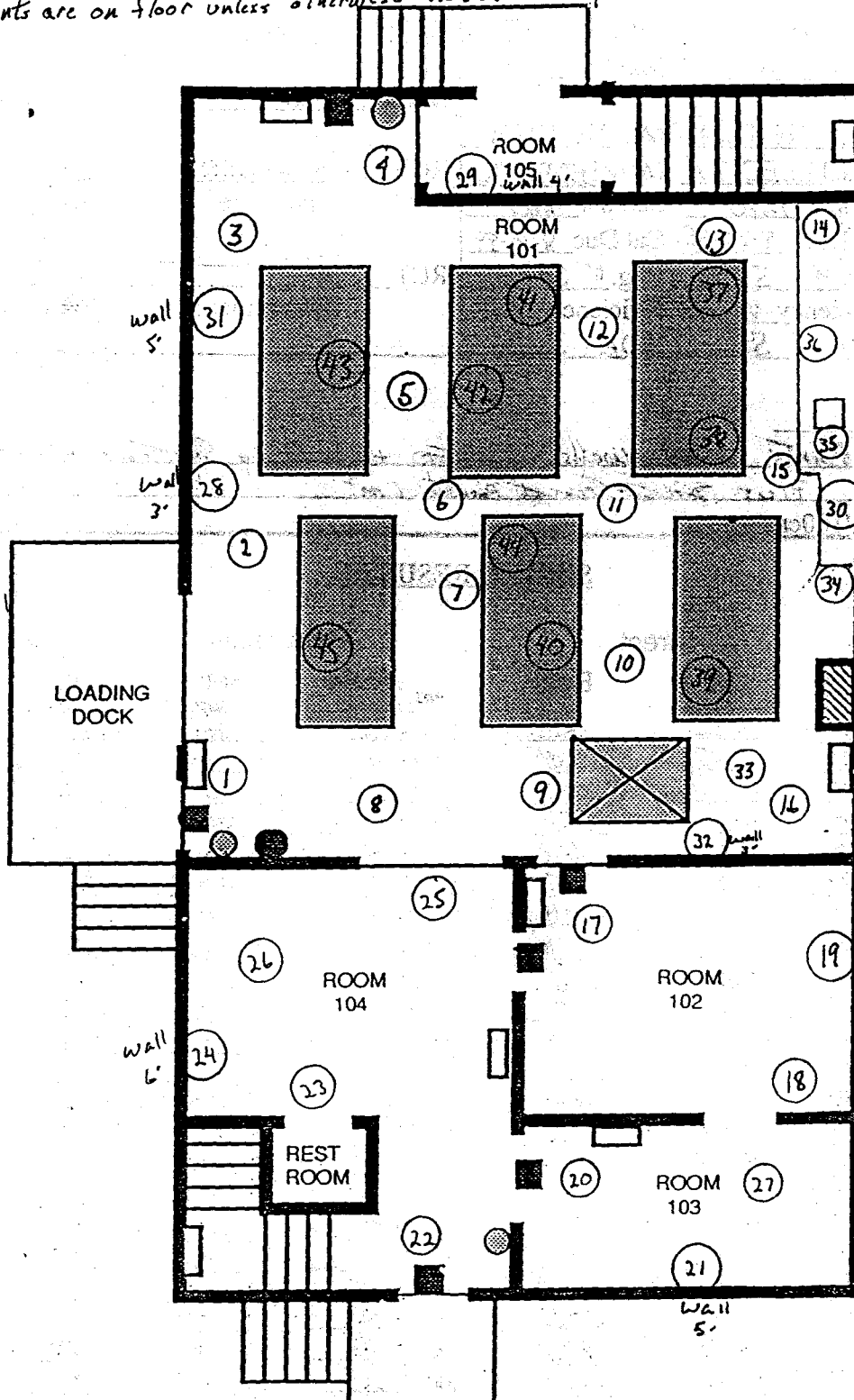
Signature

# ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SH

## RADIOLOGICAL SAFETY Drawing Showing Survey Points

### Building 910 - First Floor

All survey points are on floor unless otherwise noted on right →



- 26. 255 Tank 4'
- 27. Panel T1 1A-5 4'
- 33. 488 Panel 4'
- 34. RCRA-38.14
- 35. D-52 Tank
- 36. MU1024 3'
- 37. RCRA 38.08 4'
- 38. VC-1 COVER 5'
- 39. Tank 1512 5'
- 40. MV 5022-2 5'
- 41. Tank #1506 6'
- 42. EV1001 (RAD) 4'
- 43. 4005 (BLUE) 3'
- 44. D6005 Tank
- 45. Beam 3'



160

# ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## INSTRUMENT DATA

Mfg. <u>EBERLINE</u> Mfg. <u>EBERLINE</u> Mfg. <u>EBERLINE</u>			Survey Type: <u>Contamination Survey</u>	
Model <u>BC-4</u>	Model <u>BC-4</u>	Model <u>SAC-4</u>	Building: <u>910</u>	
Serial # <u>838</u>	Serial # <u>874</u>	Serial # <u>959</u>	Location: _____	
Cal Due <u>7/13/99</u>	Cal Due <u>6/7/99</u>	Cal Due <u>7/5/99</u>	Purpose: <u>CHARACTERIZATION SURVEYS</u>	
Bkg. <u>46</u>	Bkg. <u>38</u>	Bkg. <u>0.4</u>	RWP #: <u>- NA -</u>	
Efficiency <u>25%</u>	Efficiency <u>25%</u>	Efficiency <u>33%</u>	Date: <u>04-23-99</u> Time: <u>1430</u>	
MDA <u>&lt;200</u>	MDA <u>&lt;200</u>	MDA <u>&lt;20</u>	RCT: <u>Rex Snyder</u> / <u>[Signature]</u>	
Mfg. <u>EBERLINE</u>	Mfg. <u>NE TECH</u>	Mfg. <u>NE TECH</u>	Print name _____ Signature _____	
Model <u>SAC-4</u>	Model <u>ELECTRA</u>	Model <u>ELECTRA</u>	RCT: <u>N</u> / <u>1</u> / <u>A</u>	
Serial # <u>1188</u>	Serial # <u>1682</u>	Serial # <u>1682</u>	Print name _____ Signature _____ Emp. # _____	
Cal Due <u>6/16/99</u>	Cal Due <u>8-12-99</u>	Cal Due <u>8-12-99</u>		
Bkg. <u>0.1</u>	Bkg. <u>2</u>	Bkg. <u>461</u>		
Efficiency <u>33%</u>	Efficiency <u>22.3%</u>	Efficiency <u>31.1%</u>		
MDA <u>&lt;20</u>	MDA <u>43</u>	MDA <u>307</u>		

PRL # : \_\_\_\_\_

Comments Survey Points = Ceilings + walls + Building Systems over 2 meter

All Results Are In dpm/100cm2.

## SURVEY RESULTS

Removable		Direct		Removable		Direct	
Alpha	Beta	Alpha	Beta	Alpha	Beta	Alpha	Beta
1. < 20	< 200	54	897	23. < 20	< 200	< 43	< 307
2. < 20	< 200	< 43	444	24. < 20	< 200	< 43	< 307
3. < 20	< 200	< 43	1047	25. < 20	< 200	< 43	525
4. < 20	< 200	< 43	804	26. <del>NA</del>			
5. < 20	< 200	< 43	< 307	27. <del>NA</del>			
6. < 20	< 200	< 43	525	28. <del>NA</del>			
7. < 20	< 200	< 43	429	29. <del>NA</del>			
8. < 20	< 200	66	< 307	30. <del>NA</del>			
9. < 20	< 200	< 43	786	31. <del>NA</del>			
10. < 20	< 200	60	723	32. <del>NA</del>			
11. < 20	< 200	< 43	< 307	33. <del>NA</del>			
12. < 20	< 200	54	< 307	34. <del>NA</del>			
13. < 20	< 200	< 43	< 307	35. <del>NA</del>			
14. < 20	< 200	< 43	990	36. <del>NA</del>			
15. < 20	< 200	< 43	< 307	37. <del>NA</del>			
16. < 20	< 200	< 43	< 307	38. <del>NA</del>			
17. < 20	< 200	< 43	< 307	39. <del>NA</del>			
18. < 20	< 200	< 43	687	40. <del>NA</del>			
19. < 20	< 200	< 43	< 307	41. <del>NA</del>			
20. < 20	< 200	< 43	< 307	42. <del>NA</del>			
21. < 20	< 200	48	744	43. <del>NA</del>			
22. < 20	< 200	< 43	< 307	44. <del>NA</del>			

Date

4/26/99

RS Supervision:

LN Cooper

Print Name

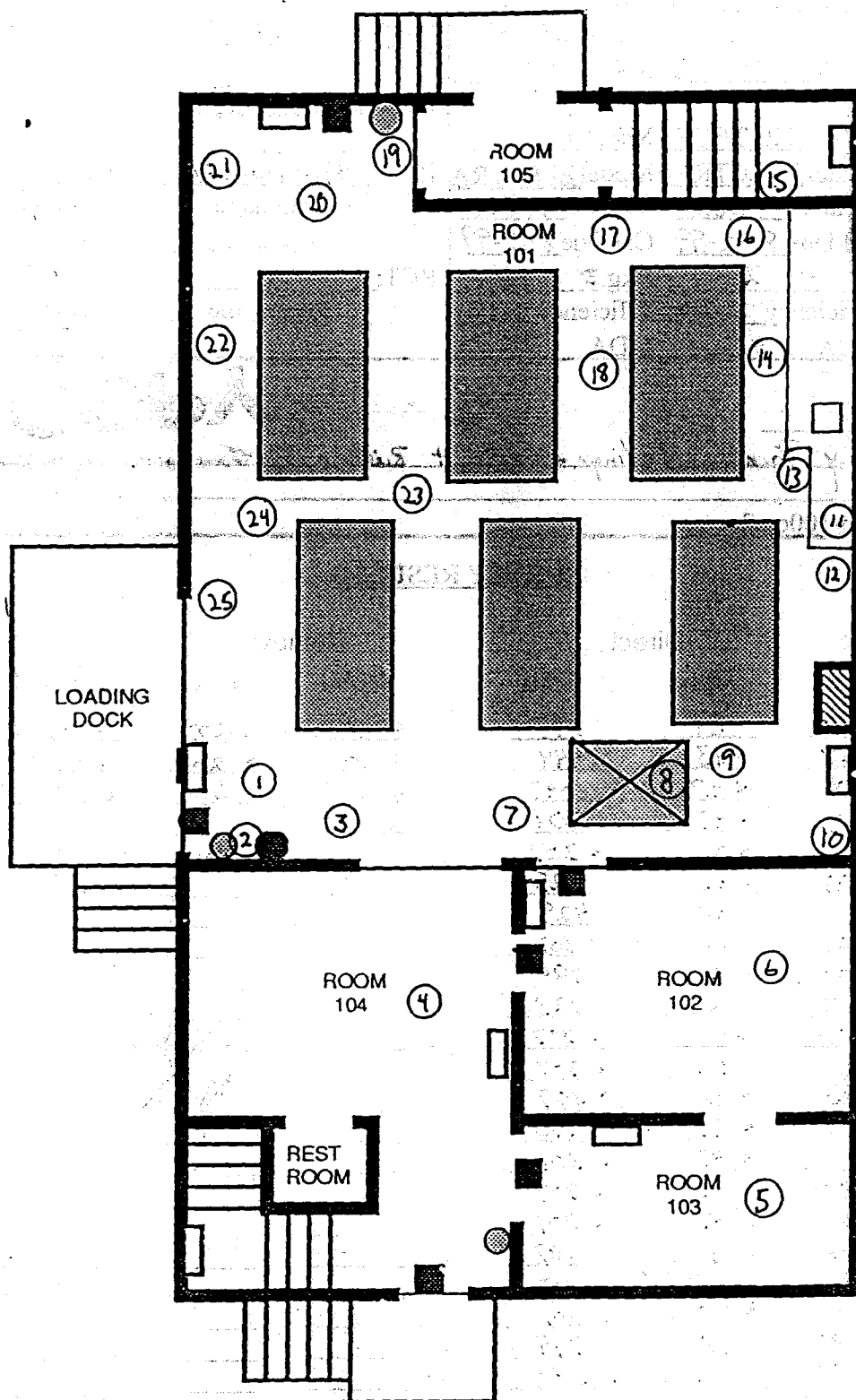
[Signature]

Signature

# ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## RADIOLOGICAL SAFETY Drawing Showing Survey Points

Building 910 - First Floor



1. Light
2. Wall 10'
3. Ceiling
4. Light
5. White Beam 11'
6. Pipe 10'
7. Fire System 11'
8. Gantry Beam
9. Ceiling
10. Wall 10'
11. 38.14 Tank
12. Light
13. White steel Beam
14. Ceiling
15. top of Stairway
16. Conduit
17. Light
18. Ceiling
19. Heater
20. Light
21. Ceiling
22. Vent 10'
23. Beam 11'
24. Conduit 11'
25. Wall 12'



1162

# ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE	Survey Type: Contamination Survey
Model BC-4	Model BC-4	Model SAC-4	Building: 910
Serial # 838	Serial # 874	Serial # 959	Location:
Cal Due 7/13/99	Cal Due 6/7/99	Cal Due 7/5/99	Purpose: CHARACTERIZATION SURVEYS
Bkg. 43	Bkg. 34	Bkg. 0.2	RWP #: -NA-
Efficiency 25%	Efficiency 25%	Efficiency 33%	Date: 04-26-99 Time: 1400
MDA <200	MDA <200	MDA <20	
Mfg. EBERLINE	Mfg. NE TECH	Mfg. NE TECH	
Model SAC-4	Model ELECTRA	Model ELECTRA	RCT: Rex Snyder / [Signature]
Serial # 1188	Serial # 2344	Serial # 2344	Print name Signature Emp. #
Cal Due 6/16/99	Cal Due 8-2-99	Cal Due 8-2-99	
Bkg. 0.3	Bkg. 5	Bkg. 519	RCT: N / 1 / A
Efficiency 33%	Efficiency 21.0%	Efficiency 32.0%	Print name Signature Emp. #
MDA <20	MDA 60	MDA 325	

PRL #:

Comments: Ceilings, walls + building systems > 2 meter

All Results Are In dpm/100cm2.

## SURVEY RESULTS

Removable		Direct		Removable		Direct	
Alpha	Beta	Alpha	Beta	Alpha	Beta	Alpha	Beta
1. < 20	< 200	< 60	< 325	23. < 20	< 200	< 60	633
2. < 20	< 200	< 60	< 325	24. < 20	< 200	78	< 325
3. < 20	< 200	< 60	< 325	25. < 20	< 200	< 60	501
4. < 20	< 200	< 60	558	26.			
5. < 20	< 200	< 60	< 325	27.			
6. < 20	< 200	< 60	720	28.			
7. < 20	< 200	< 60	< 325	29.			
8. < 20	< 200	< 60	< 325	30.			
9. < 20	< 200	< 60	468	31.			
10. < 20	< 200	< 60	372	32.			
11. < 20	< 200	< 60	< 325	33.			
12. < 20	< 200	< 60	666	34.			
13. < 20	< 200	< 60	< 325	35.			
14. < 20	< 200	90	< 325	36.			
15. < 20	< 200	< 60	< 325	37.			
16. < 20	< 200	< 60	366	38.			
17. < 20	< 200	< 60	< 325	39.			
18. < 20	< 200	< 60	501	40.			
19. < 20	< 200	< 60	831	41.			
20. < 20	< 200	< 60	420	42.			
21. < 20	< 200	< 60	501	43.			
22. < 20	< 200	< 60	450	44.			

Date

4/29/99

RS Supervision:

LN Coomer

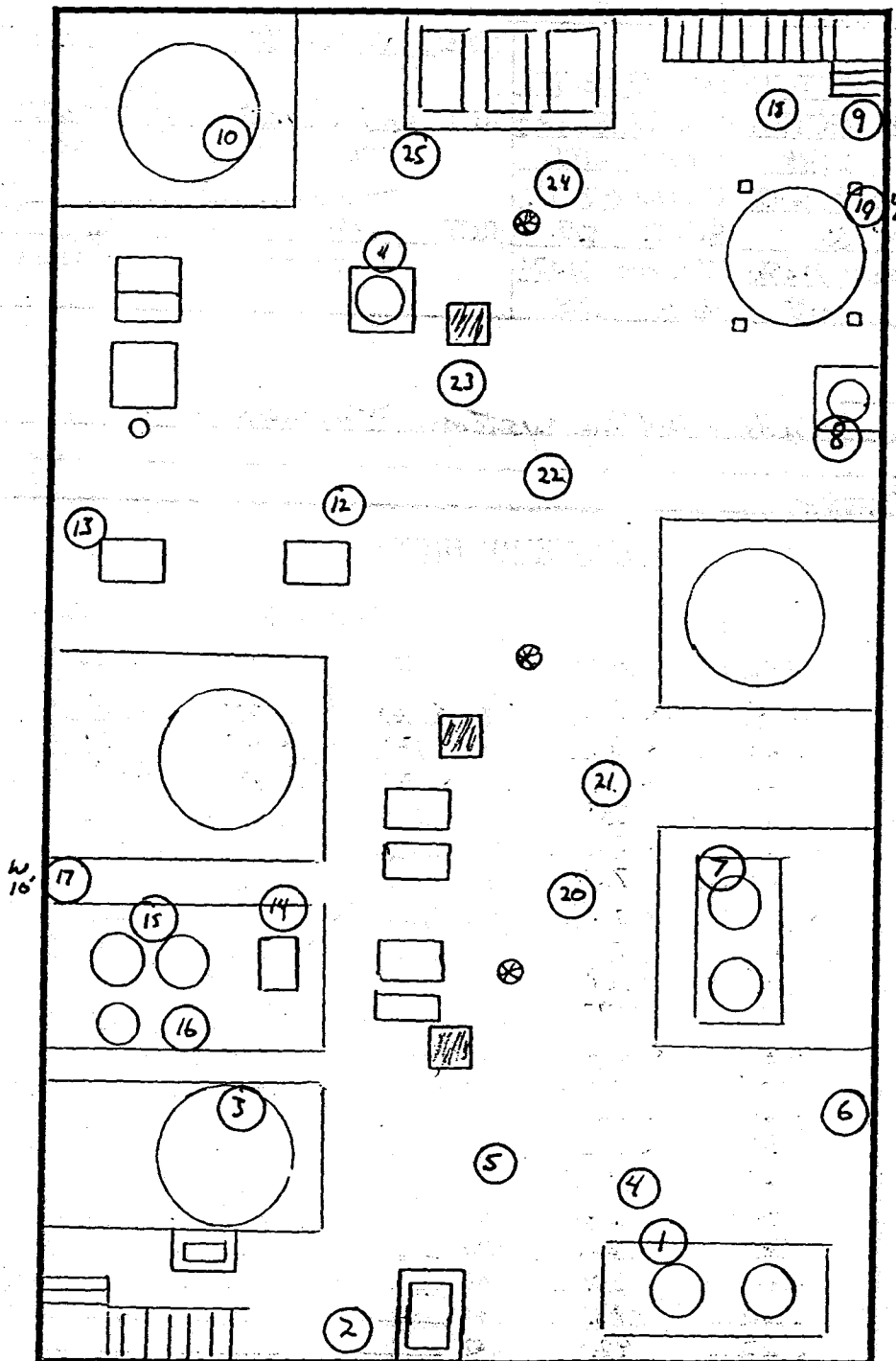
1 [Signature]

# ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## RADIOLOGICAL SAFETY Drawing Showing Survey Points

### Building 910 - Basement

- ⊕ = Drains  
▨ = Support



1. 450-17A 10'
2. D53 11'
3. D-2 10'
4. Light
5. Steamline
6. Wall 12'
7. 450-20A 10'
8. D50 9'
9. ITB-621 8'
10. D-7 10'
11. D10
12. D-13 8'
13. RFO Line 10'
14. A-Precoat 10'
15. Pipe 9'
16. D-55 8'
17. 636-16 10'
18. Light
19. Wall 11'
20. Light
21. Pipe 12'
22. Light
23. Pipe
24. Light
25. Pipe

Ceilings - Walls + Systems  
7.2 meter



# ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## INSTRUMENT DATA

Mfg. <u>EBERLINE</u> Mfg. <u>EBERLINE</u> Mfg. <u>EBERLINE</u>			Survey Type: <u>Contamination Survey</u>	
Model <u>BC-4</u> Model <u>BC-4</u> Model <u>SAC-4</u>			Building: <u>910</u>	
Serial # <u>838</u> Serial # <u>874</u> Serial # <u>959</u>			Location: _____	
Cal Due <u>7/13/99</u> Cal Due <u>6/7/99</u> Cal Due <u>7/5/99</u>			Purpose: <u>CHARACTERIZATION SURVEYS</u>	
Bkg. <u>43</u> Bkg. <u>34</u> Bkg. <u>0.2</u>			RWP #: <u>NA</u>	
Efficiency <u>25%</u> Efficiency <u>25%</u> Efficiency <u>33%</u>			Date: <u>04-16-99</u> Time: <u>1600</u>	
MDA <u>&lt;200</u> MDA <u>&lt;200</u> MDA <u>&lt;20</u>				
Mfg. <u>EBERLINE</u> Mfg. <u>NE TECH</u> Mfg. <u>NE TECH</u>			RCT: <u>Rex Snyder</u> <u>R. Snyder</u>	
Model <u>SAC-4</u> Model <u>ELECTRA</u> Model <u>ELECTRA</u>			Print name Signature	
Serial # <u>1188</u> Serial # <u>2344</u> Serial # <u>2344</u>				
Cal Due <u>6/16/99</u> Cal Due <u>8-1-99</u> Cal Due <u>8-2-99</u>			RCT: <u>N</u> <u>I</u> <u>A</u> <u>L</u>	
Bkg. <u>0.3</u> Bkg. <u>5</u> Bkg. <u>519</u>			Print name Signature Emp. #	
Efficiency <u>33%</u> Efficiency <u>22.0%</u> Efficiency <u>32.0%</u>				
MDA <u>&lt;20</u> MDA <u>60</u> MDA <u>325</u>				

PRL #: \_\_\_\_\_

Comments: Survey Points Floors + Walls < 2 meter + Scan NEVER 2 all points

All Results Are In dpm/100cm<sup>2</sup>.

## SURVEY RESULTS

Removable		Direct		Removable		Direct	
Alpha	Beta	Alpha	Beta	Alpha	Beta	Alpha	Beta
1. < 20	< 200	< 60	852	23. < 20	< 200	< 60	450
2. < 20	< 200	< 60	1035	24. < 20	< 200	< 60	528
3. < 20	< 200	< 60	840	25. < 20	< 200	< 60	504
4. < 20	< 200	< 60	967	26. < 20	< 200	< 60	672
5. < 20	< 200	< 60	858	27. < 20	< 200	< 60	480
6. < 20	< 200	< 60	933	28. < 20	< 200	< 60	564
7. < 20	< 200	< 60	864	29. < 20	< 200	< 60	558
8. < 20	< 200	< 60	735	30. < 20	< 200	< 60	918
9. < 20	< 200	< 60	726	31. _____	_____	_____	_____
10. < 20	< 200	< 60	907	32. _____	_____	_____	_____
11. < 20	< 200	< 60	870	33. _____	_____	_____	_____
12. < 20	< 200	< 60	945	34. _____	_____	_____	_____
13. < 20	< 200	< 60	807	35. _____	_____	_____	_____
14. < 20	< 200	< 60	877	36. _____	_____	_____	_____
15. < 20	< 200	< 60	909	37. _____	_____	_____	_____
16. < 20	< 200	< 60	900	38. _____	_____	_____	_____
17. < 20	< 200	< 60	975	39. _____	_____	_____	_____
18. < 20	< 200	< 60	750	40. _____	_____	_____	_____
19. < 20	< 200	< 60	1113	41. _____	_____	_____	_____
20. < 20	< 200	< 60	552	42. _____	_____	_____	_____
21. < 20	< 200	< 60	< 325	43. _____	_____	_____	_____
22. < 20	< 200	< 60	535	44. _____	_____	_____	_____

Date

4/29/99

RS Supervision:

1 N Cooper 1 K. Cooper

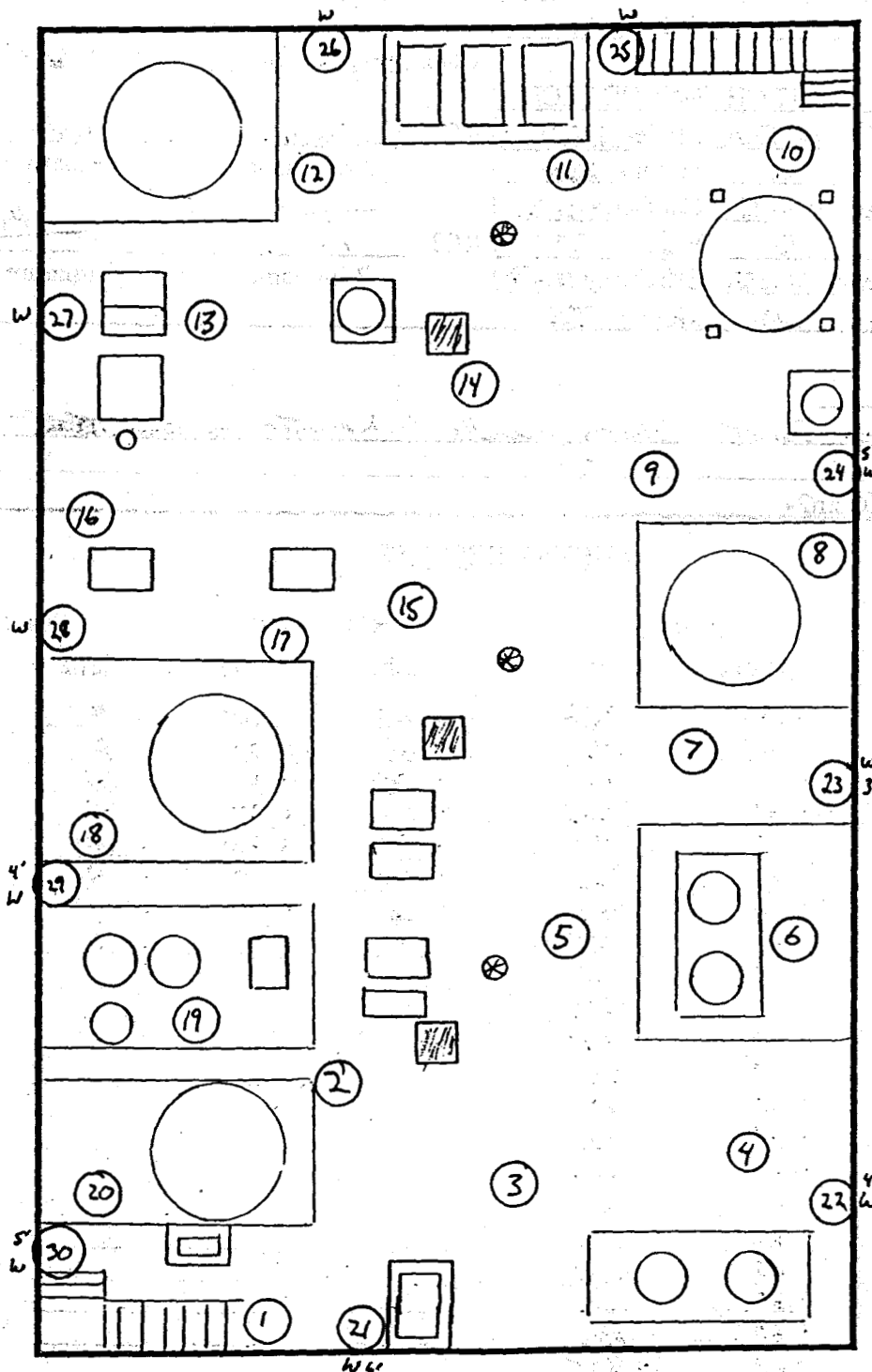
# ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## RADIOLOGICAL SAFETY Drawing Showing Survey Points

### Building 910 - Basement

⊗ = Drains

▨ = Support



Floors + Walls < 2 meter



# ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model BC-4	Model BC-4	Model SAC-4
Serial # 838	Serial # 874	Serial # 959
Cal Due 7/13/99	Cal Due 6/7/99	Cal Due 7/5/99
Bkg. 39	Bkg. 38	Bkg. 0.2
Efficiency 25%	Efficiency 25%	Efficiency 33%
MDA <200	MDA <200	MDA <20

Survey Type: Contamination Survey

Building: 910

Location:

Purpose: CHARACTERIZATION SURVEYS

RWP #: 99-991-0044

Date: 04-27-99 Time: 1900

Mfg. EBERLINE	Mfg. NE TECH	Mfg. NE TECH
Model SAC-4	Model ELECTRA	Model ELECTRA
Serial # 1188	Serial # 1682	Serial # 1682
Cal Due 6/16/99	Cal Due 8-12-99	Cal Due 8-12-99
Bkg. 0.2	Bkg. 3	Bkg. 496
Efficiency 33%	Efficiency 22.3%	Efficiency 31.1%
MDA <20	MDA 49	MDA 318

RCT: Rex Snyder, Rex Snyder  
Print name Signature

RCT: N A  
Print name Signature Emp. #

PRL #:

Comments: Survey Points on Roof / Pre Asbestos + Post Asbestos Survey Results  
\* 11-12-13 are post Asbestos Results

All Results Are In dpm/100cm2

## SURVEY RESULTS

Removable				Direct				Removable				Direct			
Alpha		Beta		Alpha		Beta		Alpha		Beta		Alpha		Beta	
1.	< 20	< 200	< 49	< 318	23.										
2.	< 20	< 200	< 49	< 318	24.										
3.	< 20	< 200	< 49	< 318	25.										
4.	< 20	< 200	< 49	846	26.										
5.	< 20	< 200	< 49	834	27.										
6.	< 20	< 200	< 49	642	28.										
7.	< 20	< 200	< 49	582	29.										
8.	< 20	< 200	84	909	30.										
9.	< 20	< 200	< 49	1101	31.										
10.	< 20	< 200	90	768	32.										
11.	< 20	< 200	< 49	< 318	33.										
12.	< 20	< 200	< 49	615	34.										
13.	< 20	< 200	< 49	477	35.										
14.	< 20	< 200	< 49	< 318	36.										
15.	< 20	< 200	< 49	< 318	37.										
16.	< 20	< 200	< 49	< 318	38.										
17.					39.										
18.					40.										
19.					41.										
20.					42.										
21.					43.										
22.					44.										

Date

4/28/99

RS Supervision:

LN Cooper

Print Name

Signature

Emp. #

# ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

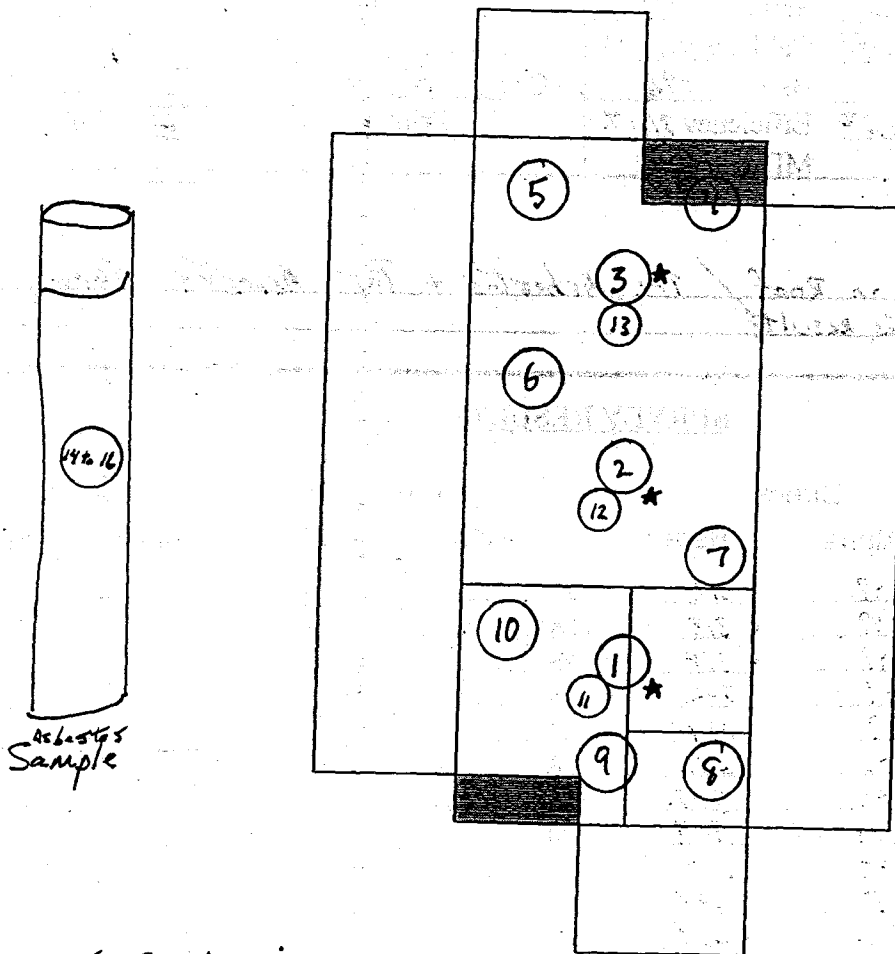
## RADIOLOGICAL SAFETY

### Drawing Showing Survey Points

Building 910 - First Floor Roof

RAF 4-27-99

- # 1 to 3 Indicate Asbestos Sample Location
- # 1 to 10 Indicate Current Survey Locations
- # 11 to 13 Indicate Post Sample Survey



★ Asbestos Sample points

1168

# ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model BC-4	Model BC-4	Model SAC-4
Serial # 838	Serial # 874	Serial # 959
Cal Due 7/13/99	Cal Due 6/7/99	Cal Due 7/5/99
Bkg. 44	Bkg. 40	Bkg. 0.1
Efficiency 25%	Efficiency 25%	Efficiency 33%
MDA <200	MDA <200	MDA <20

Survey Type: Contamination Survey

Building: 910

Location:

Purpose: CHARACTERIZATION SURVEYS

RWP #: - N/A -

Date: 05-03-99 Time: 1600

Mfg. EBERLINE	Mfg. NE TECH	Mfg. NE TECH
Model SAC-4	Model ELECTRA	Model ELECTRA
Serial # 1188	Serial # 2344	Serial # 2344
Cal Due 6/16/99	Cal Due 8-2-99	Cal Due 8-2-99
Bkg. 0.3	Bkg. 1	Bkg. 449
Efficiency 33%	Efficiency 22.0%	Efficiency 320%
MDA <20	MDA 34	MDA 303

RCT: Rex Snyder

Print name

Signature

RCT:

Print name

Signature

Emp. #

PRL #:

Comments

Exterior Survey Points - Walls

All Results Are In dpm/100cm2.

## SURVEY RESULTS

Removable				Direct				Removable				Direct			
Alpha		Beta		Alpha		Beta		Alpha		Beta		Alpha		Beta	
1.	< 20	< 200	48	621	23.										
2.	< 20	< 200	< 34	690	24.										
3.	< 20	< 200	< 34	753	25.										
4.	< 20	< 200	< 34	480	26.										
5.	< 20	< 200	72	681	27.										
6.	< 20	< 200	60	621	28.										
7.	< 20	< 200	< 34	876	29.										
8.	< 20	< 200	54	705	30.										
9.	< 20	< 200	< 34	735	31.										
10.	< 20	< 200	< 34	663	32.										
11.	< 20	< 200	< 34	< 303	33.										
12.	< 20	< 200	< 34	< 303	34.										
13.	< 16	< 200	48	< 303	35.										
14.	< 20	< 200	42	477	36.										
15.	< 20	< 200	< 34	594	37.										
16.	< 20	< 200	54	531	38.										
17.	< 20	< 200	42	< 303	39.										
18.	< 20	< 200	42	< 303	40.										
19.	< 20	< 200	56	960	41.										
20.	< 20	< 200	42	594	42.										
21.					43.										
22.					44.										

Date

5-3-99

RS Supervision:

LN Cooper

Print Name

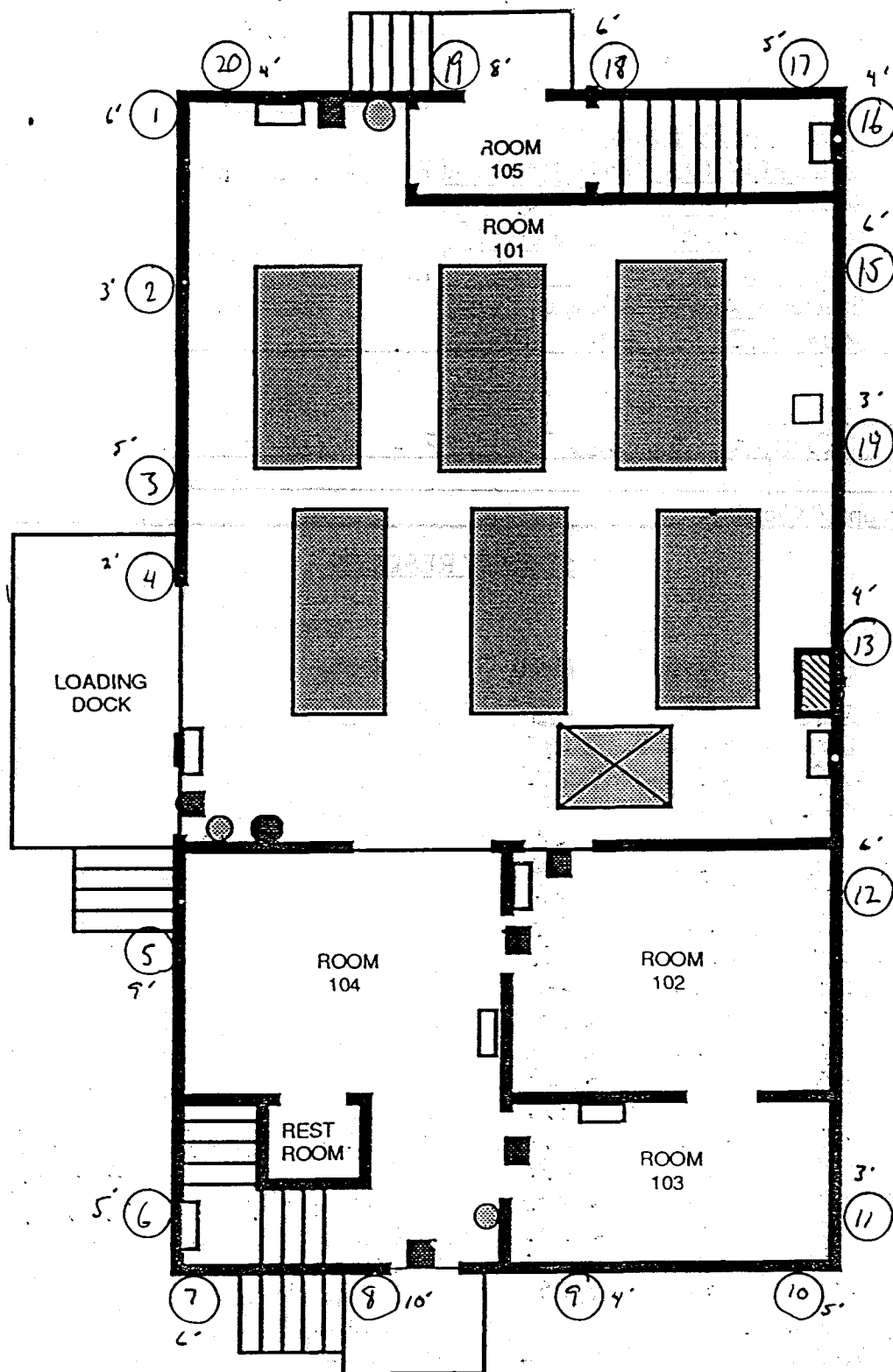
1 Amy Cooper

Signature

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SII

RADIOLOGICAL SAFETY  
Drawing Showing Survey Points

Building 910 - First Floor



Exterior Walls



170

## **Appendix D.1.2**

### **Bldg. 910 RLC Radiological Data**

#### **Radiochemical Samples**

## **Appendix D.1.2.1**

### **Bldg. 910 RLC Radiological Data**

#### **Radiochemical Samples**

#### **Chain of Custody**



Commodo. Advanced  
Sciences, Inc.

# CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. #

95-6331#005

Page 1 of 2

Collector J. WINGARD/D. LIPPINCOTT	Contact/Requester WOJTASZEK, PAUL	Telephone No. 3125	MSIN FAX
RIN 99A6331	Sampling Origin FLOOR - 991	Purchase Order/Charge Code NG220000	
Project Title	Logbook No. MILKER	Ice Chest No. N/A	Temp.
To (Lab) S. Cohen & Associates	Method of Shipment FEDERAL EXPRESS	Bill of Lading/Air Bill No. 4533-2124-4933	
Protocol		Offsite Property No.	

## POSSIBLE SAMPLE HAZARDS/REMARKS

SPECIAL INSTRUCTIONS

Hold Time

Total Activity Exemption: Yes ☐ No ☐

KH99-1527

Bottle No.	Customer Number	Matrix	Date	Time	Location	No./Type Container	Sample Analysis	Preservative ; Packing
99A6331-011.002	N/A	SOLID	04/13/1999	9:26 AM	Bldg 910	5-G P/G	RC01B004 (Isotopic Waste) [Rush]	None
99A6331-012.002	N/A	SOLID	04/13/1999	9:36 AM	Bldg 910	5-G P/G	RC01B004 (Isotopic Waste) [Rush]	None
99A6331-013.002	N/A	SOLID	04/13/1999	9:46 AM	Bldg 910	5-G P/G	RC01B004 (Isotopic Waste) [Rush]	None
99A6331-014.002	N/A	SOLID	04/13/1999	10:52 AM	Bldg 910	5-G P/G	RC01B004 (Isotopic Waste) [Rush]	None
99A6331-015.002	N/A	SOLID	04/13/1999	11:01 AM	Bldg 910	5-G P/G	RC01B004 (Isotopic Waste) [Rush]	None
99A6331-016.002	N/A	SOLID	04/13/1999	11:12 AM	Bldg 910	5-G P/G	RC01B004 (Isotopic Waste) [Rush]	None
99A6331-017.002	N/A	SOLID	04/13/1999	10:03 AM	Bldg 910	5-G P/G	RC01B004 (Isotopic Waste) [Rush]	None

Relinquished By:	Date/Time	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
Supancy	4/29/99 1130	Fed-Ex					
Relinquished By:	Date/Time	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
		Chimber	4-23-99 0845				
Relinquished By:	Date/Time	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
Relinquished By:	Date/Time	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time

FINAL SAMPLE DISPOSITION	Disposal Method (e.g. Return to customer, per lab procedure, used in process)	Disposed By	Date/Time
--------------------------	---	-------------	-----------

## CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. #

99A6331#005

Page 1 of 2

Collector	Wingard / R. Zigmund	Contact/Requester	WOJASZEK, PAUL
RIN	99A6331	Sampling Origin	FLOOR - 991
Project Title	NA	Logbook No.	MILKER
To (Lab)	S. Cohen & Associates	Method of Shipment	FED-X
Protocol	NA	Bill of Lading/Air Bill No.	
		Offsite Property No.	

## POSSIBLE SAMPLE HAZARDS/REMARKS

\*\* \*\*

## SPECIAL INSTRUCTIONS

Hold Time

Total Activity Exemption: Yes ☐ No ☐

Bottle No.	Customer Number	Matrix	Date	Time	Location	No/Type Container	Sample Analysis	Preservative ; Packing
99A6331-011.002	NA	SOLID	4/13/99	0926	Bldg 910	5-G P/G	RC01B004 (Isotopic Waste) [Rush]	None
99A6331-012.002		SOLID		0936	Bldg 910	5-G P/G	RC01B004 (Isotopic Waste) [Rush]	None
99A6331-013.002		SOLID		0946	Bldg 910	5-G P/G	RC01B004 (Isotopic Waste) [Rush]	None
99A6331-014.002		SOLID		1052	Bldg 910	5-G P/G	RC01B004 (Isotopic Waste) [Rush]	None
99A6331-015.002		SOLID		1101	Bldg 910	5-G P/G	RC01B004 (Isotopic Waste) [Rush]	None
99A6331-016.002		SOLID		1112	Bldg 910	5-G P/G	RC01B004 (Isotopic Waste) [Rush]	None
99A6331-017.002		SOLID		1003	Bldg 910	5-G P/G	RC01B004 (Isotopic Waste) [Rush]	None

Relinquished By:	Date/Time	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
Wingard CAS 4/13/99 1110		Locked Cabinet - 910 4/13/99 1110		Locked Cabinet	4/15/99 1330	R. Zigmund	4/15/99 1330
Relinquished By:	Date/Time	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
R. Zigmund	4/15/99 1623	T891R Ref #2 4/22/99 1115		T891R Ref #2 4/15/99 1623			
Relinquished By:	Date/Time	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
T891R Ref #2 4/22/99 1115		Supervisory	4/22/99 1115				
Relinquished By:	Date/Time	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)						Date/Time



## CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. #

99A6331#005

Page 2 of 2

[illegible]

1. The first step is to identify the problem or question that needs to be answered. This involves understanding the context and the specific requirements of the task.

# CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

92-6331#006

Page 1 of 2

POSSIBLE SAMPLE HAZARDS/REMARKS ** **	SPECIAL INSTRUCTIONS	Hold Time	Total Activity Exemption:	
			Yes <input type="checkbox"/>	No <input type="checkbox"/>

KH199-1528

Relinquished By: <i>Murphy</i>	Date/Time 4/22/99 1130	Received By: <i>Fed Ex</i>	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
Relinquished By:	Date/Time	Received By: <i>Wm. J. [Signature]</i>	Date/Time 4-23-99 0845	Relinquished By:	Date/Time	Received By:	Date/Time
Relinquished By:	Date/Time	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
Relinquished By: <i>OO</i>	Date/Time	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time
-----------------------------	--	-------------	-----------



Commodore Advanced Sciences, Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				C.O.C. # 99A6331#0006		
Collector <i>Wingard/DZ</i>		Contact/Requester <i>WOITASZEK, PAUL</i>	Telephone No. <i>3125</i>	MSIN	Page <u>1</u> of <u>2</u>			
RIN 99A6331	Sampling Origin <i>BASEMENT FLOORS</i>	Logbook No. <i>MILKER</i>	Purchase Order/Charge Code <i>NG220000</i>	Temp.	FAX			
Project Title <i>NA</i>	Method of Shipment <i>VENTILATED FEED-X</i>	Bill of Lading/Air Bill No.	Ice Chest No.	Offsite Property No.				
To (Lab) <i>S. Cohen &amp; Associates</i>	Protocol <i>NA</i>	SPECIAL INSTRUCTIONS		Hold Time	Total Activity Exemption: Yes <input type="checkbox"/> No <input type="checkbox"/>			
POSSIBLE SAMPLE HAZARDS/REMARKS ** **								
Bottle No.	Customer Number	Matrix	Date	Time	Location	No/Type Container	Sample Analysis	Preservative ; Packing
99A6331-021.002	<i>NA</i>	SOLID	<i>4/13/99</i>	<i>1315</i>	Bldg 910	5-G P/G	RC01B004 (Isotopic Waste) [Rush]	None
99A6331-022.002		SOLID		<i>1331</i>	Bldg 910	5-G P/G	RC01B004 (Isotopic Waste) [Rush]	None
99A6331-023.002		SOLID		<i>1342</i>	Bldg 910	5-G P/G	RC01B004 (Isotopic Waste) [Rush]	None
99A6331-024.002		SOLID		<i>1348</i>	Bldg 910	5-G P/G	RC01B004 (Isotopic Waste) [Rush]	None
99A6331-025.002		SOLID		<i>1357</i>	Bldg 910	5-G P/G	RC01B004 (Isotopic Waste) [Rush]	None
99A6331-026.002		SOLID		<i>1407</i>	Bldg 910	5-G P/G	RC01B004 (Isotopic Waste) [Rush]	None
99A6331-027.002		SOLID		<i>1413</i>	Bldg 910	5-G P/G	RC01B004 (Isotopic Waste) [Rush]	None
Relinquished By:	Date/Time	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time	
<i>Wingard CAS</i>	<i>4/13/99 1509</i>	<i>locked cabinet</i>	<i>4/13/99 1509</i>	<i>locked cabinet</i>	<i>4/15/99 1330</i>	<i>DZ</i>	<i>4/15/99 1330</i>	
Relinquished By:	Date/Time	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time	
<i>DZ</i>	<i>4/15/99 1623</i>	<i>TS91R Ref #2</i>	<i>4/15/99 1623</i>	<i>TS91R Ref #2</i>	<i>4/22/99 1115</i>	<i>TS91R Ref #2</i>	<i>4/22/99 1115</i>	
Relinquished By:	Date/Time	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time	
<i>TS91R Ref #2</i>	<i>4/22/99 1115</i>	<i>TS91R Ref #2</i>	<i>4/22/99 1115</i>	<i>TS91R Ref #2</i>	<i>4/22/99 1115</i>	<i>TS91R Ref #2</i>	<i>4/22/99 1115</i>	
Relinquished By:	Date/Time	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time	
FINAL SAMPLE DISPOSITION		Disposal Method (e.g., Return to customer, per lab procedure, used in process)			Disposed By			
					Date/Time			

# CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. #

99A6331#006

Page 2 of 2

[illegible][illegible]



# CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

**Commodore Advanced  
Sciences, Inc.**

Collector	WINGARD D. Z. 513278	Contact/Requester	WOJTASZEK, PAUL	Telephone No.	MSIN	FAX
IRIN	99A6331	Sampling Origin	Bldg 210	Purchase Order/Charge Code		
Project Title	NA	Logbook No.	MILKER	Ice Chest No.	Temp.	
To (Lab)	S. Cohen & Associates	Method of Shipment	FED-X	Bill of Lading/Air Bill No.	4533 2124 4955	
Protocol	NA			Offsite Property No.		
				Total Activities Exemption: Yes <input type="checkbox"/> No <input type="checkbox"/>		

POSSIBLE SAMPLE HAZARDS/REMARKS

\*\*\*\*\*

K499-1533

Bottle No.	Customer Number	Matrix	Date	Time	Location	No/Type Container	Sample Analysis	Preservative ; Packing
99A6331-001.002	NA	SOLID	4/20/99	1256	Bldg 910	5-G P/G	RC01B004 (Isotopic Waste) [Rush]	None None
99A6331-002.002		SOLID		1305	Bldg 910	5-G P/G	RC01B004 (Isotopic Waste) [Rush]	None None
99A6331-003.002		SOLID		1313	Bldg 910	5-G P/G	RC01B004 (Isotopic Waste) [Rush]	None None
99A6331-004.002		SOLID		1323	Bldg 910	5-G P/G	RC01B004 (Isotopic Waste) [Rush]	None None
99A6331-005.002		SOLID		1330	Bldg 910	5-G P/G	RC01B004 (Isotopic Waste) [Rush]	None None
99A6331-006.002		SOLID		1338	Bldg 910	5-G P/G	RC01B004 (Isotopic Waste) [Rush]	None None
99A6331-		SOLID		1344	Bldg 910	5-G P/G	RC01B004 (Isotopic Waste) [Rush]	None None

[illegible]



## **Appendix D.1.2.2**

### **Bldg. 910 RLC Radiological Data**

#### **Radiochemical Samples**

#### **Sample Locations**

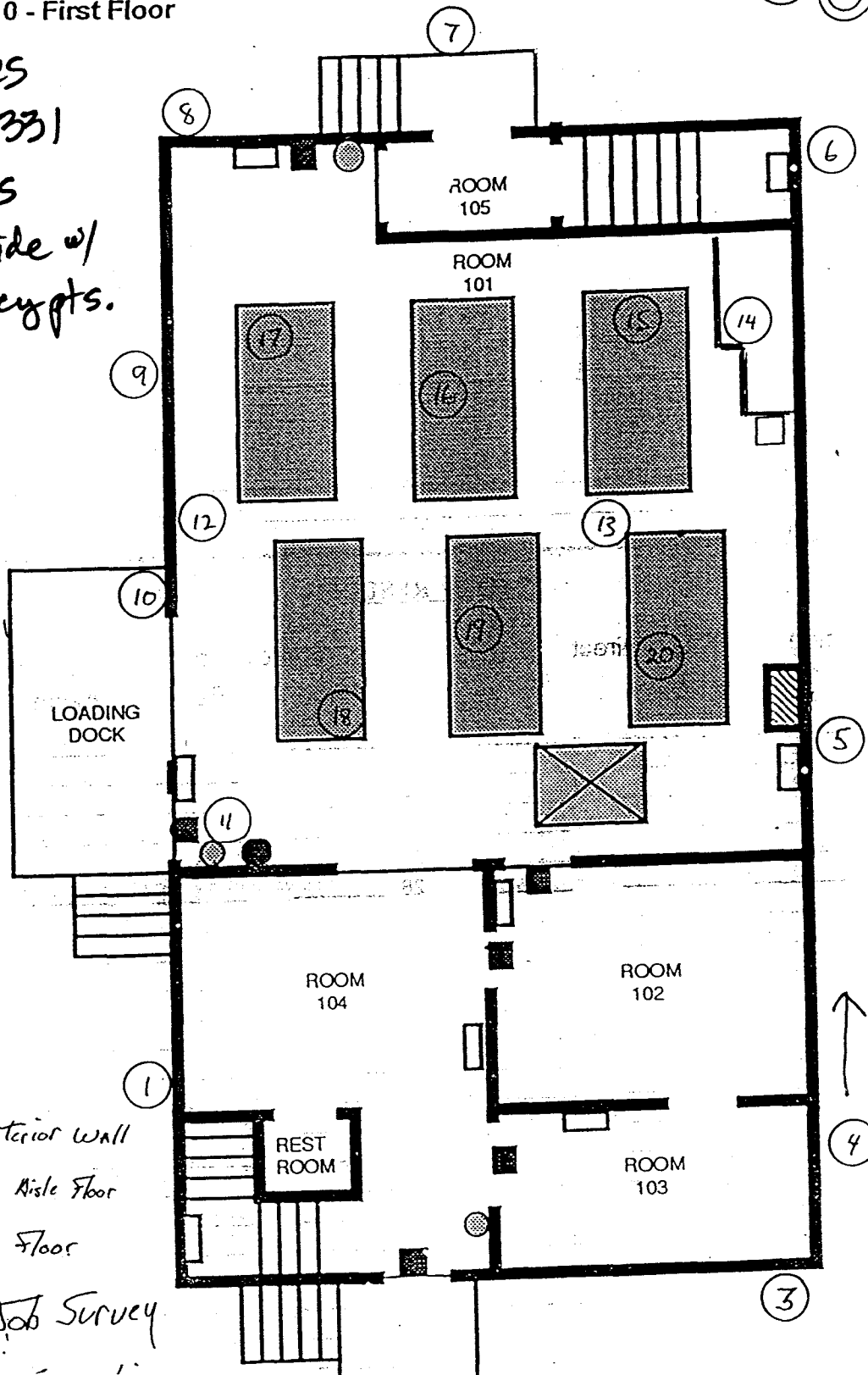
# ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## RADIOLOGICAL SAFETY Drawing Showing Survey Points

COPY

Building 910 - First Floor

Samples  
99A6331  
Events  
coincide w/  
Survey pts.



Note:

1 + 10 Exterior Wall

11, 12 + 13 Aisle Floor

14-20 on Floor

Post Job Survey  
for

184

COPY

Page \_\_\_\_ of \_\_\_\_

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

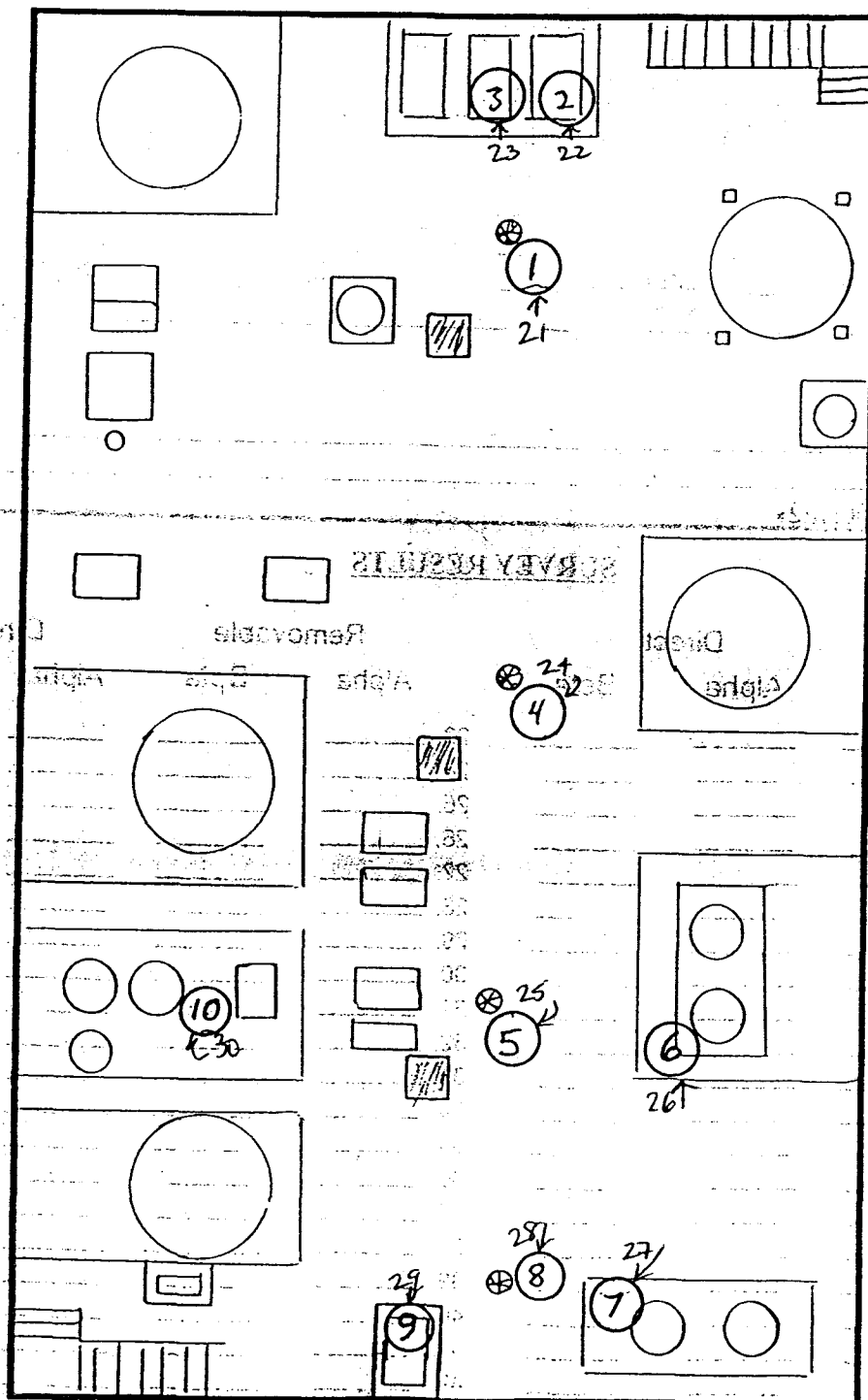
Building 910 - Basement

⊗ = Drains

▨ = Support

samples  
99A6331  
Events  
do not  
coincide  
w/  
survey pts.

Post Job  
Survey  
for  
Paint  
Sampling



185



### **Appendix D.1.2.3**

## **Bldg. 910 RLC Radiological Data**

### **Radiochemical Samples**

### **Laboratory Report**

**CASE NARRATIVE**  
**RIN 99A6331**  
**Laboratory Report Identification Number: 1527 1528, 1529, 1533**  
**PSA Module RC01B.3**

May 11, 1999

**I. Introduction**

On April 23, 1999, 30 waste samples and three water samples, (RIN 99A6331), were received for analysis at the Sanford Cohen and Associates (SC&A) Southeastern Environmental Laboratory, located in Montgomery, Alabama. The chain-of-custody accompanying the samples requested they be analyzed on a "rush" basis. The samples were analyzed in accordance with Kaiser-Hill specifications stated in the "Statement of Work for Analytical Measurements, Isotopic Determinations by Alpha Spectrometry, Module RCO1-B.3", dated April 24, 1998, and Modification 09, dated July 16, 1998.

**II. Analytical Methodology**

The radioanalytical results reported for each sample include the site and laboratory sample identification numbers, collection date, method of analysis, and the quality control samples that were analyzed concurrently. All samples were analyzed by Eichrom Industries, Inc. extraction chromatography method (ACW03) for isotopic uranium, plutonium, and americium.

**III. Analytical Results**

Deficiencies

See Reanalysis.

Matrix Interferences

There were no indications of matrix interference.

Dilutions

No dilutions were required.

Detection Limits

The required detection limits (RDL) were met for all sample analyses.

### Reanalysis

The comparison of the Pu-239 and Am-241 values (equivalency test) between samples SCAQC-1528-LD1 and KH199-1528-01 exceeded 1.5 and was not acceptable according to specifications in the SOW. Because this affected a Quality Control Sample all samples in this batch were reanalyzed beginning with preparation and the results were acceptable. The Original and Reanalysis Sample I.D. are listed below.

Original Laboratory Sample I.D.	Reanalysis Laboratory Sample I.D.	Analysis Type
SCAQC-1528-LC1	SCAQC-1528-LC1B	Pu, Am
SCAQC-1528-LD1	SCAQC-1528-LD1B	Pu, Am
SCAQC-1528-PB	SCAQC-1528-PBB	Pu, Am
KH198-1528-01	KH198-1528-01B	Pu, Am
KH198-1528-02	KH198-1528-02B	Pu, Am
KH198-1528-03	KH198-1528-03B	Pu, Am
KH198-1528-04	KH198-1528-04B	Pu, Am
KH198-1528-05	KH198-1528-05B	Pu, Am
KH198-1528-06	KH198-1528-06B	Pu, Am
KH198-1528-07	KH198-1528-07B	Pu, Am
KH198-1528-08	KH198-1528-08B	Pu, Am
KH198-1528-09	KH198-1528-09B	Pu, Am
KH198-1528-10	KH198-1528-10B	Pu, Am

### Deviations from Protocols

There were no deviations from the written protocols and analytical methods.

### Contacts with the CTR

There were no contacts with the contract technical representative (CTR) regarding these samples.

## **IV. Quality Control**



Site Samples Used for Quality Control Samples:

Site Sample Number	Laboratory Sample Number	Type of Quality Control Analysis Sample
Laboratory Type II Water	SCAQC-1527-LC1	Laboratory Control Sample
99A6331-011.002 Bldg 910	SCAQC-1527-LD1	Laboratory Duplicate Sample
Laboratory Type II Water	SCAQC-1527-PB	Preparation Blank

Site Samples Used for Quality Control Samples:

Site Sample Number	Laboratory Sample Number	Type of Quality Control Analysis Sample
Laboratory Type II Water	SCAQC-1528-LC1	Laboratory Control Sample
99A6331-021.002 Bldg 910	SCAQC-1528-LD1	Laboratory Duplicate Sample
Laboratory Type II Water	SCAQC-1528-PB	Preparation Blank

Site Samples Used for Quality Control Samples:

Site Sample Number	Laboratory Sample Number	Type of Quality Control Analysis Sample
Laboratory Type II Water	SCAQC-1509-LC1	Laboratory Control Sample
99A4849-006.002 BH94298	SCAQC-1509-LD1	Laboratory Duplicate Sample
Laboratory Type II Water	SCAQC-1509-PB	Preparation Blank

Site Samples Used for Quality Control Samples:

Site Sample Number	Laboratory Sample Number	Type of Quality Control Analysis Sample
Laboratory Type II Water	SCAQC-1533-LC1	Laboratory Control Sample
99A6331-001.002 Bldg 910	SCAQC-1533-LD1	Laboratory Duplicate Sample
Laboratory Type II Water	SCAQC-1533-PB	Preparation Blank

These water samples received on 4/23/99, RIN 99A6331 (Batch No. 1529), were analyzed concurrently with one water sample received on 4/14/99, RIN 99A4849 (Batch No. 1509). Therefore, the Laboratory Control Sample (SCAQC-1509-LC1), the Laboratory Duplicate Sample (SCAQC-1509-LD1), and the Preparation Blank (SCAQC-1509-PB) were used as quality control samples for both sample batches.

The analytical results of all quality control samples met the acceptance criteria specified in the SOW.

Sincerely,

*Joe Stinson*

Joe Stinson  
Laboratory Manager

5/11/99  
Date

015

## **Appendix D.1.2.4**

### **Bldg. 910 RLC Radiological Data**

#### **Radiochemical Samples**

#### **Laboratory Data**

# Sanford Cohen & Associates Southeastern Environmental Laboratory

## Radioanalytical Results

Report Identification Number: 99A6331

Project Name: <u>Kaiser-Hill</u>	Chain-of-Custody Number: <u>99A6331#005</u>	Matrix: <u>Waste</u>
Site Sample ID: <u>011.002</u>		
Other Sample ID: <u>BLDG 910</u>	Collection Date: <u>4/13/99</u>	Date Received: <u>4/23/99</u>
	Batch Number: <u>1527</u>	Laboratory Code: <u>SCA</u>

<u>Method Number</u>	<u>Radionuclide</u>	<u>Laboratory Sample ID</u>	<u>Activity (pCi/g)</u>	<u>2 σ Counting Error (pCi/g)</u>	<u>Total Error (pCi/g)</u>	<u>MDA (pCi/g)</u>
ACW03	U-233/234	KH199-1527-01	0.178	0.101	0.107	0.063
ACW03	U-235	KH199-1527-01	0.048	0.056	0.058	0.044
ACW03	U-238	KH199-1527-01	0.438	0.161	0.183	0.062
ACW03	PU-239/240	KH199-1527-01	0.157	0.104	0.108	0.043
ACW03	AM-241	KH199-1527-01	0.527	0.230	0.253	0.169

<u>Quality Control Samples</u>			
<u>Radionuclide</u>	<u>Laboratory Control Sample (LC)</u>	<u>Laboratory Duplicate Analysis (LD)</u>	<u>Preparation Blank (PB)</u>
U	SCAQC-1527-LC1	SCAQC-1527-LD1	SCAQC-1527-PB
Pu	SCAQC-1527-LC1	SCAQC-1527-LD1	SCAQC-1527-PB
Am	SCAQC-1527-LC1	SCAQC-1527-LD1	SCAQC-1527-PB

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Radioanalytical Results

Report Identification Number: 99A6331

Project Name: <u>Kaiser-Hill</u>	Chain-of-Custody Number: <u>99A6331#005</u>	Matrix: <u>Waste</u>
Site Sample ID: <u>012.002</u>		
Other Sample ID: <u>BLDG 910</u>	Collection Date: <u>4/13/99</u>	Date Received: <u>4/23/99</u>
	Batch Number: <u>1527</u>	Laboratory Code: <u>SCA</u>

Method Number	Radionuclide	Laboratory Sample ID	Activity (pCi/g)	2 $\sigma$ Counting Error (pCi/g)	Total Error (pCi/g)	MDA (pCi/g)
ACW03	U-233/234	KH199-1527-02	0.179	0.094	0.101	0.032
ACW03	U-235	KH199-1527-02	0.000	0.000	0.000	0.040
ACW03	U-238	KH199-1527-02	0.083	0.063	0.066	0.032
ACW03	PU-239/240	KH199-1527-02	0.190	0.140	0.145	0.106
ACW03	AM-241	KH199-1527-02	0.097	0.169	0.171	0.258

Quality Control Samples			
Radionuclide	Laboratory Control Sample (LC)	Laboratory Duplicate Analysis (LD)	Preparation Blank (PB)
U	SCAQC-1527-LC1	SCAQC-1527-LD1	SCAQC-1527-PB
Pu	SCAQC-1527-LC1	SCAQC-1527-LD1	SCAQC-1527-PB
Am	SCAQC-1527-LC1	SCAQC-1527-LD1	SCAQC-1527-PB

192

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Radioanalytical Results

Report Identification Number: 99A6331

Project Name: <u>Kaiser-Hill</u>	Chain-of-Custody Number: <u>99A6331#005</u>	Matrix: <u>Waste</u>
Site Sample ID: <u>013.002</u>		
Other Sample ID: <u>BLDG 910</u>	Collection Date: <u>4/13/99</u>	Date Received: <u>4/23/99</u>
	Batch Number: <u>1527</u>	Laboratory Code: <u>SCA</u>

Method Number	Radionuclide	Laboratory Sample ID	Activity (pCi/g)	2 $\sigma$ Counting Error (pCi/g)	Total Error (pCi/g)	MDA (pCi/g)
ACW03	U-233/234	KH199-1527-03	0.120	0.081	0.084	0.060
ACW03	U-235	KH199-1527-03	0.015	0.031	0.031	0.042
ACW03	U-238	KH199-1527-03	0.099	0.071	0.074	0.034
ACW03	PU-239/240	KH199-1527-03	0.207	0.138	0.144	0.056
ACW03	AM-241	KH199-1527-03	0.043	0.094	0.094	0.157

Quality Control Samples			
Radionuclide	Laboratory Control Sample (LC)	Laboratory Duplicate Analysis (LD)	Preparation Blank (PB)
U	SCAQC-1527-LC1	SCAQC-1527-LD1	SCAQC-1527-PB
Pu	SCAQC-1527-LC1	SCAQC-1527-LD1	SCAQC-1527-PB
Am	SCAQC-1527-LC1	SCAQC-1527-LD1	SCAQC-1527-PB

193

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Radioanalytical Results

Report Identification Number: 99A6331

Project Name: <u>Kaiser-Hill</u>	Chain-of-Custody Number: <u>99A6331#005</u>	Matrix: <u>Waste</u>
Site Sample ID: <u>014.002</u>		
Other Sample ID: <u>BLDG 910</u>	Collection Date: <u>4/13/99</u>	Date Received: <u>4/23/99</u>
	Batch Number: <u>1527</u>	Laboratory Code: <u>SCA</u>

<u>Method Number</u>	<u>Radionuclide</u>	<u>Laboratory Sample ID</u>	<u>Activity (pCi/g)</u>	<u>2 σ Counting Error (pCi/g)</u>	<u>Total Error (pCi/g)</u>	<u>MDA (pCi/g)</u>
ACW03	U-233/234	KH199-1527-04	0.282	0.142	0.152	0.077
ACW03	U-235	KH199-1527-04	0.020	0.040	0.040	0.054
ACW03	U-238	KH199-1527-04	0.271	0.136	0.147	0.043
ACW03	PU-239/240	KH199-1527-04	0.014	0.049	0.049	0.109
ACW03	AM-241	KH199-1527-04	0.008	0.094	0.094	0.181

<u>Quality Control Samples</u>			
<u>Radionuclide</u>	<u>Laboratory Control Sample (LC)</u>	<u>Laboratory Duplicate Analysis (LD)</u>	<u>Preparation Blank (PB)</u>
U	SCAQC-1527-LC1	SCAQC-1527-LD1	SCAQC-1527-PB
Pu	SCAQC-1527-LC1	SCAQC-1527-LD1	SCAQC-1527-PB
Am	SCAQC-1527-LC1	SCAQC-1527-LD1	SCAQC-1527-PB

194

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Radioanalytical Results

Report Identification Number: 99A6331

Project Name: <u>Kaiser-Hill</u>	Chain-of-Custody Number: <u>99A6331#005</u>	Matrix: <u>Waste</u>
Site Sample ID: <u>015.002</u>		
Other Sample ID: <u>BLDG 910</u>	Collection Date: <u>4/13/99</u>	Date Received: <u>4/23/99</u>
	Batch Number: <u>1527</u>	Laboratory Code: <u>SCA</u>

<u>Method Number</u>	<u>Radionuclide</u>	<u>Laboratory Sample ID</u>	<u>Activity (pCi/g)</u>	<u>2 <math>\sigma</math> Counting Error (pCi/g)</u>	<u>Total Error (pCi/g)</u>	<u>MDA (pCi/g)</u>
ACW03	U-233/234	KH199-1527-05	0.381	0.157	0.174	0.069
ACW03	U-235	KH199-1527-05	0.018	0.035	0.036	0.048
ACW03	U-238	KH199-1527-05	0.294	0.136	0.149	0.068
ACW03	PU-239/240	KH199-1527-05	0.100	0.091	0.093	0.086
ACW03	AM-241	KH199-1527-05	-0.033	0.080	0.081	0.179

<u>Quality Control Samples</u>			
<u>Radionuclide</u>	<u>Laboratory Control Sample (LC)</u>	<u>Laboratory Duplicate Analysis (LD)</u>	<u>Preparation Blank (PB)</u>
U	SCAQC-1527-LC1	SCAQC-1527-LD1	SCAQC-1527-PB
Pu	SCAQC-1527-LC1	SCAQC-1527-LD1	SCAQC-1527-PB
Am	SCAQC-1527-LC1	SCAQC-1527-LD1	SCAQC-1527-PB

195

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## Radioanalytical Results

Report Identification Number: 99A6331

Project Name: <u>Kaiser-Hill</u>	Chain-of-Custody Number: <u>99A6331#005</u>	Matrix: <u>Waste</u>
Site Sample ID: <u>016.002</u>		
Other Sample ID: <u>BLDG 910</u>	Collection Date: <u>4/13/99</u>	Date Received: <u>4/23/99</u>
	Batch Number: <u>1527</u>	Laboratory Code: <u>SCA</u>

<u>Method Number</u>	<u>Radionuclide</u>	<u>Laboratory Sample ID</u>	<u>Activity (pCi/g)</u>	<u>2 σ Counting Error (pCi/g)</u>	<u>Total Error (pCi/g)</u>	<u>MDA (pCi/g)</u>
ACW03	U-233/234	KH199-1527-06	0.390	0.155	0.173	0.065
ACW03	U-235	KH199-1527-06	0.000	0.000	0.000	0.046
ACW03	U-238	KH199-1527-06	0.624	0.200	0.235	0.037
ACW03	PU-239/240	KH199-1527-06	0.247	0.140	0.148	0.081
ACW03	AM-241	KH199-1527-06	-0.045	0.073	0.074	0.205

<u>Quality Control Samples</u>			
<u>Radionuclide</u>	<u>Laboratory Control Sample (LC)</u>	<u>Laboratory Duplicate Analysis (LD)</u>	<u>Preparation Blank (PB)</u>
U	SCAQC-1527-LC1	SCAQC-1527-LD1	SCAQC-1527-PB
Pu	SCAQC-1527-LC1	SCAQC-1527-LD1	SCAQC-1527-PB
Am	SCAQC-1527-LC1	SCAQC-1527-LD1	SCAQC-1527-PB



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Radioanalytical Results

Report Identification Number: 99A6331

Project Name: <u>Kaiser-Hill</u>	Chain-of-Custody Number: <u>99A6331#005</u>	Matrix: <u>Waste</u>
Site Sample ID: <u>017.002</u>		
Other Sample ID: <u>BLDG 910</u>	Collection Date: <u>4/13/99</u>	Date Received: <u>4/23/99</u>
	Batch Number: <u>1527</u>	Laboratory Code: <u>SCA</u>

Method Number	Radionuclide	Laboratory Sample ID	Activity (pCi/g)	2 $\sigma$ Counting Error (pCi/g)	Total Error (pCi/g)	MDA (pCi/g)
ACW03	U-233/234	KH199-1527-07	0.205	0.108	0.116	0.063
ACW03	U-235	KH199-1527-07	0.016	0.032	0.033	0.044
ACW03	U-238	KH199-1527-07	0.126	0.085	0.088	0.063
ACW03	PU-239/240	KH199-1527-07	0.170	0.125	0.130	0.058
ACW03	AM-241	KH199-1527-07	0.210	0.184	0.189	0.210

Quality Control Samples			
Radionuclide	Laboratory Control Sample (LC)	Laboratory Duplicate Analysis (LD)	Preparation Blank (PB)
U	SCAQC-1527-LC1	SCAQC-1527-LD1	SCAQC-1527-PB
Pu	SCAQC-1527-LC1	SCAQC-1527-LD1	SCAQC-1527-PB
Am	SCAQC-1527-LC1	SCAQC-1527-LD1	SCAQC-1527-PB

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**Radioanalytical Results**

Report Identification Number: 99A6331

Project Name: <u>Kaiser-Hill</u>	Chain-of-Custody Number: <u>99A6331#005</u>	Matrix: <u>Waste</u>
Site Sample ID: <u>018.002</u>		
Other Sample ID: <u>BLDG 910</u>	Collection Date: <u>4/13/99</u>	Date Received: <u>4/23/99</u>
	Batch Number: <u>1527</u>	Laboratory Code: <u>SCA</u>

<u>Method Number</u>	<u>Radionuclide</u>	<u>Laboratory Sample ID</u>	<u>Activity (pCi/g)</u>	<u>2 <math>\sigma</math> Counting Error (pCi/g)</u>	<u>Total Error (pCi/g)</u>	<u>MDA (pCi/g)</u>
ACW03	U-233/234	KH199-1527-08	0.229	0.111	0.120	0.034
ACW03	U-235	KH199-1527-08	0.047	0.055	0.056	0.043
ACW03	U-238	KH199-1527-08	0.139	0.086	0.090	0.034
ACW03	PU-239/240	KH199-1527-08	0.042	0.058	0.058	0.077
ACW03	AM-241	KH199-1527-08	0.140	0.153	0.156	0.196

<b>Quality Control Samples</b>			
<u>Radionuclide</u>	<u>Laboratory Control Sample (LC)</u>	<u>Laboratory Duplicate Analysis (LD)</u>	<u>Preparation Blank (PB)</u>
U	SCAQC-1527-LC1	SCAQC-1527-LD1	SCAQC-1527-PB
Pu	SCAQC-1527-LC1	SCAQC-1527-LD1	SCAQC-1527-PB
Am	SCAQC-1527-LC1	SCAQC-1527-LD1	SCAQC-1527-PB

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## Radioanalytical Results

Report Identification Number: 99A6331

Project Name: <u>Kaiser-Hill</u>	Chain-of-Custody Number: <u>99A6331#005</u>	Matrix: <u>Waste</u>
Site Sample ID: <u>019.002</u>		
Other Sample ID: <u>BLDG 910</u>	Collection Date: <u>4/13/99</u>	Date Received: <u>4/23/99</u>
	Batch Number: <u>1527</u>	Laboratory Code: <u>SCA</u>

<u>Method Number</u>	<u>Radionuclide</u>	<u>Laboratory Sample ID</u>	<u>Activity (pCi/g)</u>	<u>2 <math>\sigma</math> Counting Error (pCi/g)</u>	<u>Total Error (pCi/g)</u>	<u>MDA (pCi/g)</u>
ACW03	U-233/234	KH199-1527-09	0.164	0.101	0.106	0.068
ACW03	U-235	KH199-1527-09	0.017	0.035	0.035	0.047
ACW03	U-238	KH199-1527-09	0.212	0.112	0.120	0.038
ACW03	PU-239/240	KH199-1527-09	0.035	0.050	0.051	0.048
ACW03	AM-241	KH199-1527-09	0.030	0.061	0.062	0.083

<u>Quality Control Samples</u>			
<u>Radionuclide</u>	<u>Laboratory Control Sample (LC)</u>	<u>Laboratory Duplicate Analysis (LD)</u>	<u>Preparation Blank (PB)</u>
U	SCAQC-1527-LC1	SCAQC-1527-LD1	SCAQC-1527-PB
Pu	SCAQC-1527-LC1	SCAQC-1527-LD1	SCAQC-1527-PB
Am	SCAQC-1527-LC1	SCAQC-1527-LD1	SCAQC-1527-PB

199

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**Radioanalytical Results**

Report Identification Number: 99A6331

Project Name: <u>Kaiser-Hill</u>	Chain-of-Custody Number: <u>99A6331#005</u>	Matrix: <u>Waste</u>
Site Sample ID: <u>020.002</u>		
Other Sample ID: <u>BLDG 910</u>	Collection Date: <u>4/13/99</u>	Date Received: <u>4/23/99</u>
	Batch Number: <u>1527</u>	Laboratory Code: <u>SCA</u>

<u>Method Number</u>	<u>Radionuclide</u>	<u>Laboratory Sample ID</u>	<u>Activity (pCi/g)</u>	<u>2 σ Counting Error (pCi/g)</u>	<u>Total Error (pCi/g)</u>	<u>MDA (pCi/g)</u>
ACW03	U-233/234	KH199-1527-10	0.166	0.098	0.103	0.063
ACW03	U-235	KH199-1527-10	0.000	0.000	0.000	0.044
ACW03	U-238	KH199-1527-10	0.250	0.118	0.129	0.036
ACW03	PU-239/240	KH199-1527-10	0.543	0.213	0.239	0.090
ACW03	AM-241	KH199-1527-10	0.490	0.274	0.291	0.083

<b>Quality Control Samples</b>			
<u>Radionuclide</u>	<u>Laboratory Control Sample (LC)</u>	<u>Laboratory Duplicate Analysis (LD)</u>	<u>Preparation Blank (PB)</u>
U	SCAQC-1527-LC1	SCAQC-1527-LD1	SCAQC-1527-PB
Pu	SCAQC-1527-LC1	SCAQC-1527-LD1	SCAQC-1527-PB
Am	SCAQC-1527-LC1	SCAQC-1527-LD1	SCAQC-1527-PB

200

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Radioanalytical Results

Report Identification Number: 99A6331

Project Name: <u>Kaiser-Hill</u>	Chain-of-Custody Number: <u>99A6331#006</u>	Matrix: <u>Waste</u>
Site Sample ID: <u>021.002</u>		
Other Sample ID: <u>BLDG 910</u>	Collection Date: <u>4/13/99</u>	Date Received: <u>4/23/99</u>
	Batch Number: <u>1528</u>	Laboratory Code: <u>SCA</u>

<u>Method Number</u>	<u>Radionuclide</u>	<u>Laboratory Sample ID</u>	<u>Activity (pCi/g)</u>	<u>2 σ Counting Error (pCi/g)</u>	<u>Total Error (pCi/g)</u>	<u>MDA (pCi/g)</u>
ACW03	U-233/234	KH199-1528-01	0.414	0.168	0.187	0.072
ACW03	U-235	KH199-1528-01	0.019	0.037	0.038	0.050
ACW03	U-238	KH199-1528-01	0.278	0.136	0.147	0.072
ACW03	PU-239/240	KH199-1528-01B	0.000	0.000	0.000	0.033
ACW03	AM-241	KH199-1528-01B	0.028	0.077	0.077	0.131

<u>Quality Control Samples</u>			
<u>Radionuclide</u>	<u>Laboratory Control Sample (LC)</u>	<u>Laboratory Duplicate Analysis (LD)</u>	<u>Preparation Blank (PB)</u>
U	SCAQC-1528-LC1	SCAQC-1528-LD1	SCAQC-1528-PB
Pu	SCAQC-1528-LC1B	SCAQC-1528-LD1B	SCAQC-1528-PBB
Am	SCAQC-1528-LC1B	SCAQC-1528-LD1B	SCAQC-1528-PBB

201

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## Radioanalytical Results

Report Identification Number: 99A6331

Project Name: <u>Kaiser-Hill</u>	Chain-of-Custody Number: <u>99A6331#006</u>	Matrix: <u>Waste</u>
Site Sample ID: <u>022.002</u>		
Other Sample ID: <u>BLDG 910</u>	Collection Date: <u>4/13/99</u>	Date Received: <u>4/23/99</u>
	Batch Number: <u>1528</u>	Laboratory Code: <u>SCA</u>

<u>Method Number</u>	<u>Radionuclide</u>	<u>Laboratory Sample ID</u>	<u>Activity (pCi/g)</u>	<u>2 <math>\sigma</math> Counting Error (pCi/g)</u>	<u>Total Error (pCi/g)</u>	<u>MDA (pCi/g)</u>
ACW03	U-233/234	KH199-1528-02	0.171	0.100	0.106	0.065
ACW03	U-235	KH199-1528-02	0.017	0.033	0.034	0.045
ACW03	U-238	KH199-1528-02	0.197	0.108	0.115	0.065
ACW03	PU-239/240	KH199-1528-02B	0.272	0.175	0.183	0.067
ACW03	AM-241	KH199-1528-02B	-0.038	0.093	0.093	0.207

<u>Quality Control Samples</u>			
<u>Radionuclide</u>	<u>Laboratory Control Sample (LC)</u>	<u>Laboratory Duplicate Analysis (LD)</u>	<u>Preparation Blank (PB)</u>
U	SCAQC-1528-LC1	SCAQC-1528-LD1	SCAQC-1528-PB
Pu	SCAQC-1528-LC1B	SCAQC-1528-LD1B	SCAQC-1528-PBB
Am	SCAQC-1528-LC1B	SCAQC-1528-LD1B	SCAQC-1528-PBB

202

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Radioanalytical Results

Report Identification Number: 99A6331

Project Name: <u>Kaiser-Hill</u>	Chain-of-Custody Number: <u>99A6331#006</u>	Matrix: <u>Waste</u>
Site Sample ID: <u>023.002</u>		
Other Sample ID: <u>BLDG 910</u>	Collection Date: <u>4/13/99</u>	Date Received: <u>4/23/99</u>
	Batch Number: <u>1528</u>	Laboratory Code: <u>SCA</u>

<u>Method Number</u>	<u>Radionuclide</u>	<u>Laboratory Sample ID</u>	<u>Activity (pCi/g)</u>	<u>2 <math>\sigma</math> Counting Error (pCi/g)</u>	<u>Total Error (pCi/g)</u>	<u>MDA (pCi/g)</u>
ACW03	U-233/234	KH199-1528-03	0.134	0.082	0.087	0.033
ACW03	U-235	KH199-1528-03	0.000	0.000	0.000	0.041
ACW03	U-238	KH199-1528-03	0.401	0.147	0.167	0.033
ACW03	PU-239/240	KH199-1528-03B	-0.013	0.054	0.054	0.144
ACW03	AM-241	KH199-1528-03B	0.074	0.125	0.126	0.191

<u>Quality Control Samples</u>			
<u>Radionuclide</u>	<u>Laboratory Control Sample (LC)</u>	<u>Laboratory Duplicate Analysis (LD)</u>	<u>Preparation Blank (PB)</u>
U	SCAQC-1528-LC1	SCAQC-1528-LD1	SCAQC-1528-PB
Pu	SCAQC-1528-LC1B	SCAQC-1528-LD1B	SCAQC-1528-PBB
Am	SCAQC-1528-LC1B	SCAQC-1528-LD1B	SCAQC-1528-PBB

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Radioanalytical Results

Report Identification Number: 99A6331

Project Name: <u>Kaiser-Hill</u>	Chain-of-Custody Number: <u>99A6331#006</u>	Matrix: <u>Waste</u>
Site Sample ID: <u>024.002</u>		
Other Sample ID: <u>BLDG 910</u>	Collection Date: <u>4/13/99</u>	Date Received: <u>4/23/99</u>
	Batch Number: <u>1528</u>	Laboratory Code: <u>SCA</u>

<u>Method Number</u>	<u>Radionuclide</u>	<u>Laboratory Sample ID</u>	<u>Activity (pCi/g)</u>	<u>2 <math>\sigma</math> Counting Error (pCi/g)</u>	<u>Total Error (pCi/g)</u>	<u>MDA (pCi/g)</u>
ACW03	U-233/234	KH199-1528-04	0.047	0.053	0.054	0.062
ACW03	U-235	KH199-1528-04	0.016	0.032	0.032	0.043
ACW03	U-238	KH199-1528-04	0.091	0.069	0.072	0.035
ACW03	PU-239/240	KH199-1528-04B	0.199	0.116	0.123	0.041
ACW03	AM-241	KH199-1528-04B	0.004	0.084	0.084	0.169

<u>Quality Control Samples</u>			
<u>Radionuclide</u>	<u>Laboratory Control Sample (LC)</u>	<u>Laboratory Duplicate Analysis (LD)</u>	<u>Preparation Blank (PB)</u>
U	SCAQC-1528-LC1	SCAQC-1528-LD1	SCAQC-1528-PB
Pu	SCAQC-1528-LC1B	SCAQC-1528-LD1B	SCAQC-1528-PBB
Am	SCAQC-1528-LC1B	SCAQC-1528-LD1B	SCAQC-1528-PBB

204



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Radioanalytical Results

Report Identification Number: 99A6331

Project Name: <u>Kaiser-Hill</u>	Chain-of-Custody Number: <u>99A6331#006</u>	Matrix: <u>Waste</u>
Site Sample ID: <u>025.002</u>		
Other Sample ID: <u>BLDG 910</u>	Collection Date: <u>4/13/99</u>	Date Received: <u>4/23/99</u>
	Batch Number: <u>1528</u>	Laboratory Code: <u>SCA</u>

<u>Method Number</u>	<u>Radionuclide</u>	<u>Laboratory Sample ID</u>	<u>Activity (pCi/g)</u>	<u>2 σ Counting Error (pCi/g)</u>	<u>Total Error (pCi/g)</u>	<u>MDA (pCi/g)</u>
ACW03	U-233/234	KH199-1528-05	0.188	0.107	0.113	0.066
ACW03	U-235	KH199-1528-05	0.000	0.000	0.000	0.046
ACW03	U-238	KH199-1528-05	0.138	0.089	0.093	0.037
ACW03	PU-239/240	KH199-1528-05B	0.010	0.035	0.035	0.078
ACW03	AM-241	KH199-1528-05B	0.074	0.110	0.111	0.161

<u>Quality Control Samples</u>			
<u>Radionuclide</u>	<u>Laboratory Control Sample (LC)</u>	<u>Laboratory Duplicate Analysis (LD)</u>	<u>Preparation Blank (PB)</u>
U	SCAQC-1528-LC1	SCAQC-1528-LD1	SCAQC-1528-PB
Pu	SCAQC-1528-LC1B	SCAQC-1528-LD1B	SCAQC-1528-PBB
Am	SCAQC-1528-LC1B	SCAQC-1528-LD1B	SCAQC-1528-PBB

205

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Radioanalytical Results

Report Identification Number: 99A6331

Project Name: <u>Kaiser-Hill</u>	Chain-of-Custody Number: <u>99A6331#006</u>	Matrix: <u>Waste</u>
Site Sample ID: <u>026.002</u>		
Other Sample ID: <u>BLDG 910</u>	Collection Date: <u>4/13/99</u>	Date Received: <u>4/23/99</u>
	Batch Number: <u>1528</u>	Laboratory Code: <u>SCA</u>

Method Number	Radionuclide	Laboratory Sample ID	Activity (pCi/g)	2 $\sigma$ Counting Error (pCi/g)	Total Error (pCi/g)	MDA (pCi/g)
ACW03	U-233/234	KH199-1528-06	0.214	0.118	0.125	0.070
ACW03	U-235	KH199-1528-06	0.000	0.000	0.000	0.049
ACW03	U-238	KH199-1528-06	0.184	0.109	0.115	0.070
ACW03	PU-239/240	KH199-1528-06B	0.071	0.073	0.074	0.048
ACW03	AM-241	KH199-1528-06B	0.045	0.065	0.066	0.061

Quality Control Samples			
Radionuclide	Laboratory Control Sample (LC)	Laboratory Duplicate Analysis (LD)	Preparation Blank (PB)
U	SCAQC-1528-LC1	SCAQC-1528-LD1	SCAQC-1528-PB
Pu	SCAQC-1528-LC1B	SCAQC-1528-LD1B	SCAQC-1528-PBB
Am	SCAQC-1528-LC1B	SCAQC-1528-LD1B	SCAQC-1528-PBB

206

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Radioanalytical Results

Report Identification Number: 99A6331

Project Name: <u>Kaiser-Hill</u>	Chain-of-Custody Number: <u>99A6331#006</u>	Matrix: <u>Waste</u>
Site Sample ID: <u>027.002</u>		
Other Sample ID: <u>BLDG 910</u>	Collection Date: <u>4/13/99</u>	Date Received: <u>4/23/99</u>
	Batch Number: <u>1528</u>	Laboratory Code: <u>SCA</u>

<u>Method Number</u>	<u>Radionuclide</u>	<u>Laboratory Sample ID</u>	<u>Activity (pCi/g)</u>	<u>2 <math>\sigma</math> Counting Error (pCi/g)</u>	<u>Total Error (pCi/g)</u>	<u>MDA (pCi/g)</u>
ACW03	U-233/234	KH199-1528-07	0.242	0.118	0.127	0.062
ACW03	U-235	KH199-1528-07	0.016	0.032	0.032	0.043
ACW03	U-238	KH199-1528-07	0.150	0.092	0.097	0.062
ACW03	PU-239/240	KH199-1528-07B	0.054	0.074	0.075	0.099
ACW03	AM-241	KH199-1528-07B	-0.021	0.056	0.056	0.152

<u>Quality Control Samples</u>			
<u>Radionuclide</u>	<u>Laboratory Control Sample (LC)</u>	<u>Laboratory Duplicate Analysis (LD)</u>	<u>Preparation Blank (PB)</u>
U	SCAQC-1528-LC1	SCAQC-1528-LD1	SCAQC-1528-PB
Pu	SCAQC-1528-LC1B	SCAQC-1528-LD1B	SCAQC-1528-PBB
Am	SCAQC-1528-LC1B	SCAQC-1528-LD1B	SCAQC-1528-PBB

207

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**Radioanalytical Results**

Report Identification Number: 99A6331

Project Name: <u>Kaiser-Hill</u>	Chain-of-Custody Number: <u>99A6331#006</u>	Matrix: <u>Waste</u>
Site Sample ID: <u>028.002</u>		
Other Sample ID: <u>BLDG 910</u>	Collection Date: <u>4/13/99</u>	Date Received: <u>4/23/99</u>
	Batch Number: <u>1528</u>	Laboratory Code: <u>SCA</u>

<u>Method Number</u>	<u>Radionuclide</u>	<u>Laboratory Sample ID</u>	<u>Activity (pCi/g)</u>	<u>2 σ Counting Error (pCi/g)</u>	<u>Total Error (pCi/g)</u>	<u>MDA (pCi/g)</u>
ACW03	U-233/234	KH199-1528-08	0.099	0.076	0.078	0.038
ACW03	U-235	KH199-1528-08	0.000	0.000	0.000	0.047
ACW03	U-238	KH199-1528-08	0.098	0.075	0.078	0.038
ACW03	PU-239/240	KH199-1528-08B	0.019	0.039	0.039	0.052
ACW03	AM-241	KH199-1528-08B	-0.013	0.095	0.095	0.201

<u>Quality Control Samples</u>			
<u>Radionuclide</u>	<u>Laboratory Control Sample (LC)</u>	<u>Laboratory Duplicate Analysis (LD)</u>	<u>Preparation Blank (PB)</u>
U	SCAQC-1528-LC1	SCAQC-1528-LD1	SCAQC-1528-PB
Pu	SCAQC-1528-LC1B	SCAQC-1528-LD1B	SCAQC-1528-PBB
Am	SCAQC-1528-LC1B	SCAQC-1528-LD1B	SCAQC-1528-PBB

208

035

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## Radioanalytical Results

Report Identification Number: 99A6331

Project Name: <u>Kaiser-Hill</u>	Chain-of-Custody Number: <u>99A6331#006</u>	Matrix: <u>Waste</u>
Site Sample ID: <u>029.002</u>		
Other Sample ID: <u>BLDG 910</u>	Collection Date: <u>4/13/99</u>	Date Received: <u>4/23/99</u>
	Batch Number: <u>1528</u>	Laboratory Code: <u>SCA</u>

<u>Method Number</u>	<u>Radionuclide</u>	<u>Laboratory Sample ID</u>	<u>Activity (pCi/g)</u>	<u>2 <math>\sigma</math> Counting Error (pCi/g)</u>	<u>Total Error (pCi/g)</u>	<u>MDA (pCi/g)</u>
ACW03	U-233/234	KH199-1528-09	0.148	0.091	0.096	0.036
ACW03	U-235	KH199-1528-09	0.066	0.067	0.070	0.045
ACW03	U-238	KH199-1528-09	0.147	0.091	0.095	0.036
ACW03	PU-239/240	KH199-1528-09B	0.021	0.041	0.042	0.056
ACW03	AM-241	KH199-1528-09B	-0.033	0.080	0.081	0.179

<u>Quality Control Samples</u>			
<u>Radionuclide</u>	<u>Laboratory Control Sample (LC)</u>	<u>Laboratory Duplicate Analysis (LD)</u>	<u>Preparation Blank (PB)</u>
U	SCAQC-1528-LC1	SCAQC-1528-LD1	SCAQC-1528-PB
Pu	SCAQC-1528-LC1B	SCAQC-1528-LD1B	SCAQC-1528-PBB
Am	SCAQC-1528-LC1B	SCAQC-1528-LD1B	SCAQC-1528-PBB

209

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Radioanalytical Results

Report Identification Number: 99A6331

Project Name: <u>Kaiser-Hill</u>	Chain-of-Custody Number: <u>99A6331#006</u>	Matrix: <u>Waste</u>
Site Sample ID: <u>030.002</u>		
Other Sample ID: <u>BLDG 910</u>	Collection Date: <u>4/13/99</u>	Date Received: <u>4/23/99</u>
	Batch Number: <u>1528</u>	Laboratory Code: <u>SCA</u>

<u>Method Number</u>	<u>Radionuclide</u>	<u>Laboratory Sample ID</u>	<u>Activity (pCi/g)</u>	<u>2 σ Counting Error (pCi/g)</u>	<u>Total Error (pCi/g)</u>	<u>MDA (pCi/g)</u>
ACW03	U-233/234	KH199-1528-10	0.151	0.097	0.102	0.068
ACW03	U-235	KH199-1528-10	0.000	0.000	0.000	0.048
ACW03	U-238	KH199-1528-10	0.071	0.064	0.066	0.038
ACW03	PU-239/240	KH199-1528-10B	0.144	0.113	0.117	0.056
ACW03	AM-241	KH199-1528-10B	0.090	0.151	0.152	0.231

Quality Control Samples			
<u>Radionuclide</u>	<u>Laboratory Control Sample (LC)</u>	<u>Laboratory Duplicate Analysis (LD)</u>	<u>Preparation Blank (PB)</u>
U	SCAQC-1528-LC1	SCAQC-1528-LD1	SCAQC-1528-PB
Pu	SCAQC-1528-LC1B	SCAQC-1528-LD1B	SCAQC-1528-PBB
Am	SCAQC-1528-LC1B	SCAQC-1528-LD1B	SCAQC-1528-PBB

210

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Radioanalytical Results

Report Identification Number: 99A6331

Project Name: <u>Kaiser-Hill</u>	Chain-of-Custody Number: <u>99A6331#002/005/006</u>	Matrix: <u>Water</u>
Site Sample ID: <u>031.002</u>		
Other Sample ID: <u>BLDG 910</u>	Collection Date: <u>4/20/99</u>	Date Received: <u>4/23/99</u>
	Batch Number: <u>1529</u>	Laboratory Code: <u>SCA</u>

<u>Method Number</u>	<u>Radionuclide</u>	<u>Laboratory Sample ID</u>	<u>Activity (pCi/L)</u>	<u>2 σ Counting Error (pCi/L)</u>	<u>Total Error (pCi/L)</u>	<u>MDA (pCi/L)</u>
ACW03	U-233/234	KH199-1529-01	-0.002	0.009	0.009	0.024
ACW03	U-235	KH199-1529-01	0.007	0.013	0.013	0.021
ACW03	U-238	KH199-1529-01	0.012	0.014	0.014	0.017
ACW03	PU-239/240	KH199-1529-01	0.001	0.006	0.006	0.010
ACW03	AM-241	KH199-1529-01	-0.001	0.013	0.013	0.018

Quality Control Samples			
<u>Radionuclide</u>	<u>Laboratory Control Sample (LC)</u>	<u>Laboratory Duplicate Analysis (LD)</u>	<u>Preparation Blank (PB)</u>
U	SCAQC-1509-LC1	SCAQC-1509-LD1	SCAQC-1509-PB
Pu	SCAQC-1509-LC1	SCAQC-1509-LD1	SCAQC-1509-PB
Am	SCAQC-1509-LC1	SCAQC-1509-LD1	SCAQC-1509-PB

211

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Radioanalytical Results

Report Identification Number: 99A6331

Project Name: <u>Kaiser-Hill</u>	Chain-of-Custody Number: <u>99A6331#002/005/006</u>	Matrix: <u>Water</u>
Site Sample ID: <u>032.002</u>		
Other Sample ID: <u>BLDG 910</u>	Collection Date: <u>4/13/99</u>	Date Received: <u>4/23/99</u>
	Batch Number: <u>1529</u>	Laboratory Code: <u>SCA</u>

Method Number	Radionuclide	Laboratory Sample ID	Activity (pCi/L)	2 $\sigma$ Counting Error (pCi/L)	Total Error (pCi/L)	MDA (pCi/L)
ACW03	U-233/234	KH199-1529-02	0.011	0.012	0.012	0.010
ACW03	U-235	KH199-1529-02	0.004	0.009	0.009	0.012
ACW03	U-238	KH199-1529-02	-0.003	0.004	0.004	0.020
ACW03	PU-239/240	KH199-1529-02	0.001	0.007	0.007	0.012
ACW03	AM-241	KH199-1529-02	0.004	0.013	0.013	0.017

Quality Control Samples			
Radionuclide	Laboratory Control Sample (LC)	Laboratory Duplicate Analysis (LD)	Preparation Blank (PB)
U	SCAQC-1509-LC1	SCAQC-1509-LD1	SCAQC-1509-PB
Pu	SCAQC-1509-LC1	SCAQC-1509-LD1	SCAQC-1509-PB
Am	SCAQC-1509-LC1	SCAQC-1509-LD1	SCAQC-1509-PB



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Radioanalytical Results

Report Identification Number: 99A6331

Project Name: <u>Kaiser-Hill</u>	Chain-of-Custody Number: <u>99A6331#002/005/006</u>	Matrix: <u>Water</u>
Site Sample ID: <u>033.002</u>		
Other Sample ID: <u>BLDG 910</u>	Collection Date: <u>4/13/99</u>	Date Received: <u>4/23/99</u>
	Batch Number: <u>1529</u>	Laboratory Code: <u>SCA</u>

<u>Method Number</u>	<u>Radionuclide</u>	<u>Laboratory Sample ID</u>	<u>Activity (pCi/L)</u>	<u>2 σ Counting Error (pCi/L)</u>	<u>Total Error (pCi/L)</u>	<u>MDA (pCi/L)</u>
ACW03	U-233/234	KH199-1529-03	0.007	0.010	0.010	0.010
ACW03	U-235	KH199-1529-03	0.004	0.009	0.009	0.012
ACW03	U-238	KH199-1529-03	0.000	0.000	0.000	0.010
ACW03	PU-239/240	KH199-1529-03	0.002	0.003	0.003	0.003
ACW03	AM-241	KH199-1529-03	0.010	0.011	0.012	0.013

<u>Quality Control Samples</u>			
<u>Radionuclide</u>	<u>Laboratory Control Sample (LC)</u>	<u>Laboratory Duplicate Analysis (LD)</u>	<u>Preparation Blank (PB)</u>
U	SCAQC-1509-LC1	SCAQC-1509-LD1	SCAQC-1509-PB
Pu	SCAQC-1509-LC1	SCAQC-1509-LD1	SCAQC-1509-PB
Am	SCAQC-1509-LC1	SCAQC-1509-LD1	SCAQC-1509-PB

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Radioanalytical Results

Report Identification Number: 99A6331

Project Name: <u>Kaiser-Hill</u>	Chain-of-Custody Number: <u>99A6331#002</u>	Matrix: <u>Waste</u>
Site Sample ID: <u>001.002</u>		
Other Sample ID: <u>BLDG 910</u>	Collection Date: <u>4/20/99</u>	Date Received: <u>4/23/99</u>
	Batch Number: <u>1533</u>	Laboratory Code: <u>SCA</u>

<u>Method Number</u>	<u>Radionuclide</u>	<u>Laboratory Sample ID</u>	<u>Activity (pCi/g)</u>	<u>2 σ Counting Error (pCi/g)</u>	<u>Total Error (pCi/g)</u>	<u>MDA (pCi/g)</u>
ACW03	U-233/234	KH199-1533-01	0.606	0.202	0.235	0.068
ACW03	U-235	KH199-1533-01	0.018	0.035	0.036	0.048
ACW03	U-238	KH199-1533-01	0.651	0.209	0.246	0.038
ACW03	PU-239/240	KH199-1533-01	0.780	0.285	0.325	0.088
ACW03	AM-241	KH199-1533-01	0.268	0.169	0.177	0.155

<u>Quality Control Samples</u>			
<u>Radionuclide</u>	<u>Laboratory Control Sample (LC)</u>	<u>Laboratory Duplicate Analysis (LD)</u>	<u>Preparation Blank (PB)</u>
U	SCAQC-1533-LC1	SCAQC-1533-LD1	SCAQC-1533-PB
Pu	SCAQC-1533-LC1	SCAQC-1533-LD1	SCAQC-1533-PB
Am	SCAQC-1533-LC1	SCAQC-1533-LD1	SCAQC-1533-PB

214

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Radioanalytical Results

Report Identification Number: 99A6331

Project Name: <u>Kaiser-Hill</u>	Chain-of-Custody Number: <u>99A6331#002</u>	Matrix: <u>Waste</u>
Site Sample ID: <u>002.002</u>		
Other Sample ID: <u>BLDG 910</u>	Collection Date: <u>4/20/99</u>	Date Received: <u>4/23/99</u>
	Batch Number: <u>1533</u>	Laboratory Code: <u>SCA</u>

<u>Method Number</u>	<u>Radionuclide</u>	<u>Laboratory Sample ID</u>	<u>Activity (pCi/g)</u>	<u>2 σ Counting Error (pCi/g)</u>	<u>Total Error (pCi/g)</u>	<u>MDA (pCi/g)</u>
ACW03	U-233/234	KH199-1533-02	0.640	0.214	0.249	0.072
ACW03	U-235	KH199-1533-02	0.056	0.065	0.067	0.050
ACW03	U-238	KH199-1533-02	0.517	0.189	0.216	0.072
ACW03	PU-239/240	KH199-1533-02	0.125	0.115	0.118	0.068
ACW03	AM-241	KH199-1533-02	0.107	0.101	0.103	0.122

<u>Quality Control Samples</u>			
<u>Radionuclide</u>	<u>Laboratory Control Sample (LC)</u>	<u>Laboratory Duplicate Analysis (LD)</u>	<u>Preparation Blank (PB)</u>
U	SCAQC-1533-LC1	SCAQC-1533-LD1	SCAQC-1533-PB
Pu	SCAQC-1533-LC1	SCAQC-1533-LD1	SCAQC-1533-PB
Am	SCAQC-1533-LC1	SCAQC-1533-LD1	SCAQC-1533-PB

215

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Radioanalytical Results

Report Identification Number: 99A6331

Project Name: <u>Kaiser-Hill</u>	Chain-of-Custody Number: <u>99A6331#002</u>	Matrix: <u>Waste</u>
Site Sample ID: <u>003.002</u>		
Other Sample ID: <u>BLDG 910</u>	Collection Date: <u>4/20/99</u>	Date Received: <u>4/23/99</u>
	Batch Number: <u>1533</u>	Laboratory Code: <u>SCA</u>

Method Number	Radionuclide	Laboratory Sample ID	Activity (pCi/g)	2 $\sigma$ Counting Error (pCi/g)	Total Error (pCi/g)	MDA (pCi/g)
ACW03	U-233/234	KH199-1533-03	0.495	0.173	0.200	0.036
ACW03	U-235	KH199-1533-03	0.017	0.033	0.033	0.045
ACW03	U-238	KH199-1533-03	0.480	0.170	0.195	0.036
ACW03	PU-239/240	KH199-1533-03	0.047	0.055	0.056	0.043
ACW03	AM-241	KH199-1533-03	0.041	0.078	0.078	0.123

Quality Control Samples			
Radionuclide	Laboratory Control Sample (LC)	Laboratory Duplicate Analysis (LD)	Preparation Blank (PB)
U	SCAQC-1533-LC1	SCAQC-1533-LD1	SCAQC-1533-PB
Pu	SCAQC-1533-LC1	SCAQC-1533-LD1	SCAQC-1533-PB
Am	SCAQC-1533-LC1	SCAQC-1533-LD1	SCAQC-1533-PB

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Radioanalytical Results

Report Identification Number: 99A6331

Project Name: <u>Kaiser-Hill</u>	Chain-of-Custody Number: <u>99A6331#002</u>	Matrix: <u>Waste</u>
Site Sample ID: <u>004.002</u>		
Other Sample ID: <u>BLDG 910</u>	Collection Date: <u>4/20/99</u>	Date Received: <u>4/23/99</u>
	Batch Number: <u>1533</u>	Laboratory Code: <u>SCA</u>

Method Number	Radionuclide	Laboratory Sample ID	Activity (pCi/g)	2 $\sigma$ Counting Error (pCi/g)	Total Error (pCi/g)	MDA (pCi/g)
ACW03	U-233/234	KH199-1533-04	0.669	0.224	0.261	0.075
ACW03	U-235	KH199-1533-04	0.019	0.039	0.039	0.053
ACW03	U-238	KH199-1533-04	0.870	0.261	0.314	0.075
ACW03	PU-239/240	KH199-1533-04	0.053	0.053	0.054	0.036
ACW03	AM-241	KH199-1533-04	0.185	0.137	0.142	0.063

Quality Control Samples			
Radionuclide	Laboratory Control Sample (LC)	Laboratory Duplicate Analysis (LD)	Preparation Blank (PB)
U	SCAQC-1533-LC1	SCAQC-1533-LD1	SCAQC-1533-PB
Pu	SCAQC-1533-LC1	SCAQC-1533-LD1	SCAQC-1533-PB
Am	SCAQC-1533-LC1	SCAQC-1533-LD1	SCAQC-1533-PB

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Radioanalytical Results

Report Identification Number: 99A6331

Project Name: <u>Kaiser-Hill</u>	Chain-of-Custody Number: <u>99A6331#002</u>	Matrix: <u>Waste</u>
Site Sample ID: <u>005.002</u>		
Other Sample ID: <u>BLDG 910</u>	Collection Date: <u>4/20/99</u>	Date Received: <u>4/23/99</u>
	Batch Number: <u>1533</u>	Laboratory Code: <u>SCA</u>

<u>Method Number</u>	<u>Radionuclide</u>	<u>Laboratory Sample ID</u>	<u>Activity (pCi/g)</u>	<u>2 <math>\sigma</math> Counting Error (pCi/g)</u>	<u>Total Error (pCi/g)</u>	<u>MDA (pCi/g)</u>
ACW03	U-233/234	KH199-1533-05	0.735	0.210	0.256	0.034
ACW03	U-235	KH199-1533-05	0.009	0.033	0.033	0.074
ACW03	U-238	KH199-1533-05	0.727	0.209	0.255	0.059
ACW03	PU-239/240	KH199-1533-05	0.054	0.055	0.056	0.037
ACW03	AM-241	KH199-1533-05	0.100	0.140	0.141	0.200

Quality Control Samples			
<u>Radionuclide</u>	<u>Laboratory Control Sample (LC)</u>	<u>Laboratory Duplicate Analysis (LD)</u>	<u>Preparation Blank (PB)</u>
U	SCAQC-1533-LC1	SCAQC-1533-LD1	SCAQC-1533-PB
Pu	SCAQC-1533-LC1	SCAQC-1533-LD1	SCAQC-1533-PB
Am	SCAQC-1533-LC1	SCAQC-1533-LD1	SCAQC-1533-PB

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Radioanalytical Results

Report Identification Number: 99A6331

Project Name: <u>Kaiser-Hill</u>	Chain-of-Custody Number: <u>99A6331#002</u>	Matrix: <u>Waste</u>
Site Sample ID: <u>006.002</u>		
Other Sample ID: <u>BLDG 910</u>	Collection Date: <u>4/20/99</u>	Date Received: <u>4/23/99</u>
	Batch Number: <u>1533</u>	Laboratory Code: <u>SCA</u>

<u>Method Number</u>	<u>Radionuclide</u>	<u>Laboratory Sample ID</u>	<u>Activity (pCi/g)</u>	<u>2 <math>\sigma</math> Counting Error (pCi/g)</u>	<u>Total Error (pCi/g)</u>	<u>MDA (pCi/g)</u>
ACW03	U-233/234	KH199-1533-06	0.875	0.233	0.292	0.059
ACW03	U-235	KH199-1533-06	0.046	0.053	0.055	0.041
ACW03	U-238	KH199-1533-06	1.06	0.261	0.336	0.033
ACW03	PU-239/240	KH199-1533-06	0.020	0.037	0.037	0.060
ACW03	AM-241	KH199-1533-06	0.034	0.049	0.049	0.046

<u>Quality Control Samples</u>			
<u>Radionuclide</u>	<u>Laboratory Control Sample (LC)</u>	<u>Laboratory Duplicate Analysis (LD)</u>	<u>Preparation Blank (PB)</u>
U	SCAQC-1533-LC1	SCAQC-1533-LD1	SCAQC-1533-PB
Pu	SCAQC-1533-LC1	SCAQC-1533-LD1	SCAQC-1533-PB
Am	SCAQC-1533-LC1	SCAQC-1533-LD1	SCAQC-1533-PB

219

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Radioanalytical Results

Report Identification Number: 99A6331

Project Name: <u>Kaiser-Hill</u>	Chain-of-Custody Number: <u>99A6331#002</u>	Matrix: <u>Waste</u>
Site Sample ID: <u>007.002</u>		
Other Sample ID: <u>BLDG 910</u>	Collection Date: <u>4/20/99</u>	Date Received: <u>4/23/99</u>
	Batch Number: <u>1533</u>	Laboratory Code: <u>SCA</u>

<u>Method Number</u>	<u>Radionuclide</u>	<u>Laboratory Sample ID</u>	<u>Activity (pCi/g)</u>	<u>2 <math>\sigma</math> Counting Error (pCi/g)</u>	<u>Total Error (pCi/g)</u>	<u>MDA (pCi/g)</u>
ACW03	U-233/234	KH199-1533-07	0.513	0.173	0.201	0.061
ACW03	U-235	KH199-1533-07	0.047	0.054	0.056	0.042
ACW03	U-238	KH199-1533-07	0.486	0.168	0.194	0.060
ACW03	PU-239/240	KH199-1533-07	0.080	0.073	0.074	0.043
ACW03	AM-241	KH199-1533-07	0.080	0.141	0.142	0.215

<u>Quality Control Samples</u>			
<u>Radionuclide</u>	<u>Laboratory Control Sample (LC)</u>	<u>Laboratory Duplicate Analysis (LD)</u>	<u>Preparation Blank (PB)</u>
U	SCAQC-1533-LC1	SCAQC-1533-LD1	SCAQC-1533-PB
Pu	SCAQC-1533-LC1	SCAQC-1533-LD1	SCAQC-1533-PB
Am	SCAQC-1533-LC1	SCAQC-1533-LD1	SCAQC-1533-PB



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Radioanalytical Results

Report Identification Number: 99A6331

Project Name: <u>Kaiser-Hill</u>	Chain-of-Custody Number: <u>99A6331#002</u>	Matrix: <u>Waste</u>
Site Sample ID: <u>008.002</u>		
Other Sample ID: <u>BLDG 910</u>	Collection Date: <u>4/20/99</u>	Date Received: <u>4/23/99</u>
	Batch Number: <u>1533</u>	Laboratory Code: <u>SCA</u>

Method Number	Radionuclide	Laboratory Sample ID	Activity (pCi/g)	2 $\sigma$ Counting Error (pCi/g)	Total Error (pCi/g)	MDA (pCi/g)
ACW03	U-233/234	KH199-1533-08	0.475	0.160	0.186	0.032
ACW03	U-235	KH199-1533-08	0.029	0.042	0.042	0.040
ACW03	U-238	KH199-1533-08	0.520	0.168	0.197	0.032
ACW03	PU-239/240	KH199-1533-08	0.078	0.079	0.080	0.082
ACW03	AM-241	KH199-1533-08	0.240	0.164	0.171	0.170

Quality Control Samples			
Radionuclide	Laboratory Control Sample (LC)	Laboratory Duplicate Analysis (LD)	Preparation Blank (PB)
U	SCAQC-1533-LC1	SCAQC-1533-LD1	SCAQC-1533-PB
Pu	SCAQC-1533-LC1	SCAQC-1533-LD1	SCAQC-1533-PB
Am	SCAQC-1533-LC1	SCAQC-1533-LD1	SCAQC-1533-PB

221

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Radioanalytical Results

Report Identification Number: 99A6331

Project Name: <u>Kaiser-Hill</u>	Chain-of-Custody Number: <u>99A6331#002</u>	Matrix: <u>Waste</u>
Site Sample ID: <u>009.002</u>		
Other Sample ID: <u>BLDG 910</u>	Collection Date: <u>4/20/99</u>	Date Received: <u>4/23/99</u>
	Batch Number: <u>1533</u>	Laboratory Code: <u>SCA</u>

Method Number	Radionuclide	Laboratory Sample ID	Activity (pCi/g)	2 $\sigma$ Counting Error (pCi/g)	Total Error (pCi/g)	MDA (pCi/g)
ACW03	U-233/234	KH199-1533-09	0.731	0.209	0.255	0.034
ACW03	U-235	KH199-1533-09	0.000	0.000	0.000	0.041
ACW03	U-238	KH199-1533-09	0.864	0.230	0.288	0.033
ACW03	PU-239/240	KH199-1533-09	0.024	0.045	0.045	0.073
ACW03	AM-241	KH199-1533-09	0.123	0.103	0.106	0.113

Quality Control Samples			
Radionuclide	Laboratory Control Sample (LC)	Laboratory Duplicate Analysis (LD)	Preparation Blank (PB)
U	SCAQC-1533-LC1	SCAQC-1533-LD1	SCAQC-1533-PB
Pu	SCAQC-1533-LC1	SCAQC-1533-LD1	SCAQC-1533-PB
Am	SCAQC-1533-LC1	SCAQC-1533-LD1	SCAQC-1533-PB

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Radioanalytical Results

Report Identification Number: 99A6331

Project Name: <u>Kaiser-Hill</u>	Chain-of-Custody Number: <u>99A6331#002</u>	Matrix: <u>Waste</u>
Site Sample ID: <u>010.002</u>		
Other Sample ID: <u>BLDG 910</u>	Collection Date: <u>4/20/99</u>	Date Received: <u>4/23/99</u>
	Batch Number: <u>1533</u>	Laboratory Code: <u>SCA</u>

Method Number	Radionuclide	Laboratory Sample ID	Activity (pCi/g)	2 $\sigma$ Counting Error (pCi/g)	Total Error (pCi/g)	MDA (pCi/g)
ACW03	U-233/234	KH199-1533-10	0.415	0.155	0.176	0.061
ACW03	U-235	KH199-1533-10	0.016	0.032	0.032	0.043
ACW03	U-238	KH199-1533-10	0.546	0.179	0.209	0.034
ACW03	PU-239/240	KH199-1533-10	0.053	0.061	0.062	0.071
ACW03	AM-241	KH199-1533-10	0.073	0.081	0.083	0.108

Quality Control Samples			
Radionuclide	Laboratory Control Sample (LC)	Laboratory Duplicate Analysis (LD)	Preparation Blank (PB)
U	SCAQC-1533-LC1	SCAQC-1533-LD1	SCAQC-1533-PB
Pu	SCAQC-1533-LC1	SCAQC-1533-LD1	SCAQC-1533-PB
Am	SCAQC-1533-LC1	SCAQC-1533-LD1	SCAQC-1533-PB

223

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Radioanalytical Results

Quality Control Sample  
Preparation Blank (PB)

Report Identification Number: 99A6331

Project Name: <u>Kaiser-Hill</u>	Chain-of-Custody Number: <u>None</u>	Matrix: <u>Water</u>
Site Sample ID: <u>Blank 4</u>		
Other Sample ID: <u>PB</u>	Collection Date: <u>4/14/99</u>	Date Received: <u>4/23/99</u>
		Laboratory Code: <u>SCA</u>

<u>Method Number</u>	<u>Radionuclide</u>	<u>Laboratory Sample ID</u>	<u>Activity (pCi/L)</u>	<u>2 <math>\sigma</math> Counting Error (pCi/L)</u>	<u>Total Error (pCi/L)</u>	<u>MDA (pCi/L)</u>
ACW03	U-233/234	SCAQC-1509-PB	0.006	0.011	0.011	0.018
ACW03	U-235	SCAQC-1509-PB	0.001	0.011	0.011	0.026
ACW03	U-238	SCAQC-1509-PB	0.008	0.014	0.014	0.021
ACW03	PU-239/240	SCAQC-1509-PB	0.016	0.009	0.010	0.004
ACW03	AM-241	SCAQC-1509-PB	0.024	0.026	0.027	0.030

<u>Quality Control Samples</u>			
<u>Radionuclide</u>	<u>Laboratory Control Sample (LC)</u>	<u>Laboratory Duplicate Analysis (LD)</u>	<u>Preparation Blank (PB)</u>
U	SCAQC-1509-LC1	SCAQC-1509-LD1	SCAQC-1509-PB
Pu	SCAQC-1509-LC1	SCAQC-1509-LD1	SCAQC-1509-PB
Am	SCAQC-1509-LC1	SCAQC-1509-LD1	SCAQC-1509-PB

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Radioanalytical Results

Quality Control Sample  
Preparation Blank (PB)

Report Identification Number: 99A6331

Project Name: <u>Kaiser-Hill</u>	Chain-of-Custody Number: <u>None</u>	Matrix: <u>Water</u>
Site Sample ID: <u>BLANK 2</u>		
Other Sample ID: <u>BLANK 2</u>	Collection Date: <u>4/23/99</u>	Date Received: <u>4/23/99</u>
		Laboratory Code: <u>SCA</u>

Method Number	Radionuclide	Laboratory Sample ID	Activity (dpm)	2 $\sigma$ Counting Error (dpm)	Total Error (dpm)	MDA (dpm)
ACW03	U-233/234	SCAQC-1528-PB	0.000	0.000	0.000	0.040
ACW03	U-235	SCAQC-1528-PB	0.000	0.000	0.000	0.049
ACW03	U-238	SCAQC-1528-PB	0.015	0.029	0.029	0.040
ACW03	PU-239/240	SCAQC-1528-PBB	0.008	0.029	0.029	0.065
ACW03	AM-241	SCAQC-1528-PBB	0.042	0.048	0.049	0.038

Quality Control Samples			
Radionuclide	Laboratory Control Sample (LC)	Laboratory Duplicate Analysis (LD)	Preparation Blank (PB)
U	SCAQC-1528-LC1	SCAQC-1528-LD1	SCAQC-1528-PB
Pu	SCAQC-1528-LC1B	SCAQC-1528-LD1B	SCAQC-1528-PBB
Am	SCAQC-1528-LC1B	SCAQC-1528-LD1B	SCAQC-1528-PBB

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Radioanalytical Results

Quality Control Sample  
Preparation Blank (PB)

Report Identification Number: 99A6331

Project Name: <u>Kaiser-Hill</u>	Chain-of-Custody Number: <u>None</u>	Matrix: <u>Water</u>
Site Sample ID: <u>BLANK 3</u>		
Other Sample ID: <u>BLANK 3</u>	Collection Date: <u>4/23/99</u>	Date Received: <u>4/23/99</u>
		Laboratory Code: <u>SCA</u>

Method Number	Radionuclide	Laboratory Sample ID	Activity (dpm)	2 $\sigma$ Counting Error (dpm)	Total Error (dpm)	MDA (dpm)
ACW03	U-233/234	SCAQC-1533-PB	0.043	0.059	0.060	0.079
ACW03	U-235	SCAQC-1533-PB	0.000	0.000	0.000	0.055
ACW03	U-238	SCAQC-1533-PB	0.010	0.036	0.036	0.079
ACW03	PU-239/240	SCAQC-1533-PB	0.079	0.072	0.073	0.043
ACW03	AM-241	SCAQC-1533-PB	0.059	0.085	0.086	0.081

Quality Control Samples			
Radionuclide	Laboratory Control Sample (LC)	Laboratory Duplicate Analysis (LD)	Preparation Blank (PB)
U	SCAQC-1533-LC1	SCAQC-1533-LD1	SCAQC-1533-PB
Pu	SCAQC-1533-LC1	SCAQC-1533-LD1	SCAQC-1533-PB
Am	SCAQC-1533-LC1	SCAQC-1533-LD1	SCAQC-1533-PB

226

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Radioanalytical Results

Quality Control Sample  
Preparation Blank (PB)

Report Identification Number: 99A6331

Project Name: <u>Kaiser-Hill</u>	Chain-of-Custody Number: <u>None</u>	Matrix: <u>Water</u>
Site Sample ID: <u>BLANK1</u>		
Other Sample ID: <u>BLANK1</u>	Collection Date: <u>4/23/99</u>	Date Received: <u>4/23/99</u>
		Laboratory Code: <u>SCA</u>

<u>Method Number</u>	<u>Radionuclide</u>	<u>Laboratory Sample ID</u>	<u>Activity (dpm)</u>	<u>2 <math>\sigma</math> Counting Error (dpm)</u>	<u>Total Error (dpm)</u>	<u>MDA (dpm)</u>
ACW03	U-233/234	SCAQC-1527-PB	0.008	0.028	0.028	0.063
ACW03	U-235	SCAQC-1527-PB	0.000	0.000	0.000	0.044
ACW03	U-238	SCAQC-1527-PB	-0.005	0.011	0.011	0.063
ACW03	PU-239/240	SCAQC-1527-PB	0.023	0.043	0.043	0.070
ACW03	AM-241	SCAQC-1527-PB	0.162	0.125	0.129	0.063

<u>Quality Control Samples</u>			
<u>Radionuclide</u>	<u>Laboratory Control Sample (LC)</u>	<u>Laboratory Duplicate Analysis (LD)</u>	<u>Preparation Blank (PB)</u>
U	SCAQC-1527-LC1	SCAQC-1527-LD1	SCAQC-1527-PB
Pu	SCAQC-1527-LC1	SCAQC-1527-LD1	SCAQC-1527-PB
Am	SCAQC-1527-LC1	SCAQC-1527-LD1	SCAQC-1527-PB

# Sanford Cohen & Associates Southeastern Environmental Laboratory

## Radioanalytical Results

### Quality Control Sample Evaluation

Report Identification Number: 99A6331

Project Name: Kaiser-Hill

Laboratory Code: SCA

#### Laboratory Control Sample (LC1) Evaluation

Method Number	Radionuclide	Laboratory Sample ID	(CV)		(OV)		Laboratory Control Sample % Recovery (Accuracy)	Number of $\sigma$ Between CV and OV
			Decay Corrected Activity of Spike Added (pCi/g)		Laboratory Control Sample Activity (pCi/g)			
ACW03	AM-241	SCAQC-1509-LC1	* 1.91	± 0.053	* 2.18	± 0.494	114	0.819
ACW03	PU-239/240	SCAQC-1509-LC1	* 2.05	± 0.045	* 2.23	± 0.494	109	0.541
ACW03	U-233/234	SCAQC-1509-LC1	* 3.61	± 0.145	* 3.48	± 0.818	96.4	0.233
ACW03	U-238	SCAQC-1509-LC1	* 3.61	± 0.145	* 3.46	± 0.813	95.8	0.273
ACW03	AM-241	SCAQC-1527-LC1	4.24	± 0.117	4.90	± 1.30	115	0.798
ACW03	PU-239/240	SCAQC-1527-LC1	4.55	± 0.100	4.89	± 1.25	108	0.431
ACW03	U-233/234	SCAQC-1527-LC1	8.02	± 0.321	7.39	± 1.73	92.1	0.535
ACW03	U-238	SCAQC-1527-LC1	8.02	± 0.321	8.44	± 1.96	105	0.312
ACW03	U-233/234	SCAQC-1528-LC1	8.02	± 0.321	8.03	± 1.90	100	0.002
ACW03	U-238	SCAQC-1528-LC1	8.02	± 0.321	8.87	± 2.09	111	0.602
ACW03	AM-241	SCAQC-1528-LC1B	4.24	± 0.117	3.96	± 1.05	93.5	0.415
ACW03	PU-239/240	SCAQC-1528-LC1B	4.55	± 0.100	4.40	± 1.14	96.8	0.203
ACW03	AM-241	SCAQC-1533-LC1	4.24	± 0.117	5.13	± 1.39	121	1.02
ACW03	PU-239/240	SCAQC-1533-LC1	4.55	± 0.100	5.03	± 1.32	110	0.569
ACW03	U-233/234	SCAQC-1533-LC1	8.02	± 0.321	8.64	± 2.04	108	0.447
ACW03	U-238	SCAQC-1533-LC1	8.02	± 0.321	8.51	± 2.01	106	0.357

#### Laboratory Duplicate Sample (LD1) Evaluation

Method Number	Radionuclide	Laboratory Sample ID	Original Sample Activity (pCi/g)		Duplicate Sample Activity (pCi/g)		Difference Between Original Activity and Duplicate Sample Activity (F)	Ratio of the Difference Between the Sample Activities and the Propagated Measurement Original Activity and Uncertainty of the Difference at 2 $\sigma$ (F/E)
ACW03	U-233/234	SCAQC-1509-LD1	* 0.012	± 0.014	* 0.005	± 0.014	0.007	0.373
ACW03	U-235	SCAQC-1509-LD1	* 0.005	± 0.010	* -0.002	± 0.004	0.007	0.634
ACW03	U-238	SCAQC-1509-LD1	* 0.009	± 0.015	* 0.009	± 0.013	0.000	0.022
ACW03	PU-239/240	SCAQC-1509-LD1	* 0.009	± 0.007	* 0.016	± 0.011	0.008	0.569
ACW03	AM-241	SCAQC-1509-LD1	* 0.005	± 0.006	* 0.002	± 0.006	0.002	0.293
ACW03	U-233/234	SCAQC-1533-LD1	0.606	± 0.235	0.658	± 0.248	0.052	0.152
ACW03	U-235	SCAQC-1533-LD1	0.018	± 0.036	0.018	± 0.036	0.000	0.002
ACW03	U-238	SCAQC-1533-LD1	0.651	± 0.246	0.655	± 0.247	0.004	0.011
ACW03	PU-239/240	SCAQC-1533-LD1	0.780	± 0.325	0.787	± 0.303	0.007	0.016
ACW03	AM-241	SCAQC-1533-LD1	0.268	± 0.177	0.319	± 0.179	0.052	0.205
ACW03	U-233/234	SCAQC-1527-LD1	0.178	± 0.107	0.261	± 0.134	0.083	0.481

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\* Activity Expressed In pCi/L

228



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Southeastern Environmental Laboratory

Radioanalytical Results

Quality Control Sample Evaluation

Report Identification Number: 99A6331

Project Name: <u>Kaiser-Hill</u>				Laboratory Code: <u>SCA</u>			
ACW03	U-235	SCAQC-1527-LD1	0.048 ± 0.058	0.017 ± 0.034	0.032	0.467	
ACW03	U-238	SCAQC-1527-LD1	0.438 ± 0.183	0.287 ± 0.142	0.151	0.651	
ACW03	PU-239/240	SCAQC-1527-LD1	0.157 ± 0.108	0.460 ± 0.223	0.302	1.22	
ACW03	AM-241	SCAQC-1527-LD1	0.527 ± 0.253	0.582 ± 0.265	0.055	0.150	
ACW03	U-233/234	SCAQC-1528-LD1	0.414 ± 0.187	0.243 ± 0.131	0.172	0.751	
ACW03	U-235	SCAQC-1528-LD1	0.019 ± 0.038	0.000 ± 0.000	0.019	0.493	
ACW03	U-238	SCAQC-1528-LD1	0.278 ± 0.147	0.082 ± 0.070	0.196	1.20	
ACW03	PU-239/240	SCAQC-1528-LD1B	0.000 ± 0.000	0.019 ± 0.047	0.019	0.392	
ACW03	AM-241	SCAQC-1528-LD1B	0.028 ± 0.077	0.206 ± 0.181	0.179	0.910	

# RC01

## DATA QUALITY ASSESSMENT REPORT Rocky Flats Environmental Technology Site

RIN Number	Analytical Method/ PSA Line Number	Review Level
99A6331 (Lab ID# KH199-1527, 1528, 1533, 1529)	Uranium, Plutonium, Americium by Alpha Spectrometry in waste and water/ RC01-B004 and RC01-B001	Validation

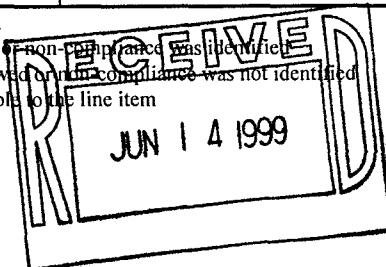
Analytical Laboratory	Assessment Performed By	Number of Samples/ Matrix
Sanford Cohen & Associates (SC&A)	TechLaw, Inc.	30/ Waste/ RC01-B004 3/Aqueous/RC01-B002

Sample Numbers: 99A6331-011.002, 99A6331-012.002, 99A6331-013.002, 99A6331-014.002, 99A6331-015.002, 99A6331-016.002, 99A6331-017.002, 99A6331-018.002, 99A6331-019.002, 99A6331-020.002, 99A6331-032.002, 99A6331-021.002, 99A6331-022.002, 99A6331-023.002, 99A6331-024.002, 99A6331-025.002, 99A6331-026.002, 99A6331-027.002, 99A6331-028.002, 99A6331-029.002, 99A6331-030.002, 99A6331-033.002, 99A6331-001.002, 99A6331-002.002, 99A6331-003.002, 99A6331-004.002, 99A6331-005.002, 99A6331-006.002, 99A6331-007.002, 99A6331-008.002, 99A6331-009.002, 99A6331-010.002, 99A6331-031.002

Quality Control Item	Reviewed (Y or N)	Non-Compliance Identified
General: (Cover Page, Table of Contents, Data Review Checklist (DRC), General SDP Requirements, Narrative)	Y	N
Chain of Custody, Preservation, Holding Times	Y	N
Sample Results	Y	Comment 1
QC Sample Results	Y	N
Duplicate Sample Results	Y	N
Laboratory Control Sample Results	Y	N
Preparation Blank Results	Y	N
Standards Summary	Y	N
Instrument Calibration Summary	Y	N
Counting Raw Data Summary	Y	N
Electronic Data Deliverable (EDD)	Y	N
INSTRUMENT CALIBRATION PACKAGE	Y	N
Structural Requirements	Y	N
General Requirements	Y	N
Energy Calibration	Y	N
Backgrounds	Y	N
Efficiency Calibration	Y	N
Other:	N/A	N/A

Y  
N  
N/A

Item was reviewed and non-compliance was identified  
Item was not reviewed and non-compliance was not identified  
Item is not applicable to the line item



June 14, 1999

**Action Items:** None.

**Comments:**

1. Sample Results: The laboratory is reporting an uncertainty of  $\pm 0.000$  for several analytes. After communicating with the laboratory it reports that this is due to software limitations and is working to correct the problem. No action was taken. [153]

Verification/ Validation Signature: Richard Thurman

Date: 6/14/99

Reviewer Signature: Alubellin  
(Validation Only)

Date: 6/14/99

## **Appendix D.2**

### **Bldg. 910 Historical Chemical Data**

## **Appendix D.2.1**

### **Bldg. 910 Historical Chemical Data**

#### **Metals**

## **Appendix D.2.1.1**

### **Bldg. 910 Historical Chemical Data**

#### **Metals**

#### **Laboratory Data**

## FORM 1A-1

## INORGANIC ANALYSIS DATA SHEET

Lab Name: Building 559 PA Inorganic Laboratories Sample No.: 1

Lab Sample ID: X-98A1506-001 Bldg 910 Paint Chips Sample

Section: ICPAES Lab Sample I.D.s beginning with 'X' indicates TCLP Extract.

% Solids for Sample: 100.0000

Date Sampled: 4/1/98 SDG No.: APR02

Lab Receipt Date: 4/1/98 QC Report No.: SD040298.RPT

Matrix: Water \_\_\_\_\_  
 Soil \_\_\_\_\_  
 Sludge \_\_\_\_\_  
 Other X \_\_\_\_\_

## Elements Identified and Measured

Concentration Units: mg/L

Analyte	Concentration	C	N V * E O O S +	Q	M
Aluminum	0.9000	U			P
Antimony	0.3000	U			P
Arsenic	0.3000	U			P
Barium	0.8142	B			P
Beryllium	0.0150	U			P
Cadmium	0.0654	B			P
Calcium	321.4587	B		E	P
Chromium	0.1600	U			P
Cobalt	0.1500	U			P
Copper	0.4035	B			P
Iron	211.6287	B			P
Lead	0.2769	B			P
Magnesium	6.9258	B			P
Manganese	2.9829	B			P
Molybdenum	0.1800	U			P
Nickel	0.3436	B			P
Phosphorus	3.7413	B			P
Selenium	0.3600	U			P
Silver	0.0900	U			P
Strontium	0.3783	B			P
Thallium	0.4998	B			P
Titanium	0.0600	U			P
Vanadium	0.2400	U			P
Zinc	4.9718	B			P

Color Before: Red Clarity Before: Cloudy

Color After: Colorless Clarity After: Clear

Texture:

Artifacts: Fine mesh red solids left on TCLP Filter.

Comments: Sample = 100 % solids. Pressure filtration of the TCLP solids extract through a standard TCLP pressure filtration unit, containing a 0.7 micron borosilicate glass fiber filter, was performed to obtain the TCLP final sample extract.

FORM 1A-1

INORGANIC ANALYSIS DATA SHEET

Lab Name: Building 559 PA Inorganic Laboratories Sample No.: 2  
Lab Sample ID: X-98A1508-002 Bldg 910 Paint Chips Sample  
Section: ICPAES Lab Sample I.D.s beginning with 'X' indicate TCLP Extract  
% Solids for Sample: 100.0000  
Date Sampled: 4/1/98 SDG No.: APR02  
Lab Receipt Date: 4/1/98 QC Report No.: SD040298.RPT  
Matrix: Water \_\_\_\_\_  
Soil \_\_\_\_\_  
Sludge \_\_\_\_\_  
Other X \_\_\_\_\_

Elements Identified and Measured

Concentration Units: mg/L

N V \* E O O S +

Analyte	Concentration	C	Q	M
Aluminum	0.8000	U		P
Antimony	0.9182	B		P
Arsenic	0.3000	U		P
Barium	0.1500	U		P
Beryllium	0.0150	U		P
Cadmium	0.0800	U		P
Calcium	68.9721	B	E	P
Chromium	174.8361			P
Cobalt	0.8678	B		P
Copper	0.4181	B		P
Iron	37.7680	B		P
Lead	0.2400	U		P
Magnesium	4.3360	B		P
Manganese	0.3876	B		P
Molybdenum	0.1500	U		P
Nickel	0.1500	U		P
Phosphorus	188.8118	B		P
Selenium	0.9800	U		P
Silver	0.0900	U		P
Strontium	0.2982	B		P
Thallium	0.3000	U		P
Titanium	0.0800	U		P
Vanadium	0.2400	U		P
Zinc	227.6926	B		P

Color Before: Yellow Clarity Before: Cloudy  
Color After: Yellow Clarity After: Clear

Texture:

Artifacts: Fine mesh orange solids left on TCLP Filter.

Comments: Sample = 100 % solids. Pressure filtration of the TCLP solids extract through a standard TCLP pressure filtration unit, containing a 0.7 micron borosilicate glass fiber filter, was performed to obtain the TCLP final sample extract.



## FORM 1A-1

## INORGANIC ANALYSIS DATA SHEET

Lab Name: Building 559 PA Inorganic Laboratories Sample No.: 3

Lab Sample ID: X-88A1506-003 Bldg 810 Paint Chips Sample

Section: ICPAES Lab Sample I.D.s beginning with 'X' indicates TCLP Extract.

% Solids for Sample: 100.0000

Date Sampled: 4/1/98 BDG No.: APR02

Lab Receipt Date: 4/1/98 QC Report No.: SD040299.RPT

Matrix: Water \_\_\_\_\_  
 Soil \_\_\_\_\_  
 Sludge \_\_\_\_\_  
 Other X \_\_\_\_\_

## Elements Identified and Measured

Concentration Units: mg/L

N V \* E O O S +

Analyte	Concentration	C	Q	M
Aluminum	1.0440	B		P
Antimony	0.3000	U		P
Arsenic	0.3000	U		P
Barium	0.4302	B		P
Beryllium	0.0150	U		P
Cadmium	0.1323	B		P
Calcium	151.3722	B	E	P
Chromium	0.5478	B		P
Cobalt	1.2612	B		P
Copper	0.4848	B		P
Iron	51.2934	B		P
Lead	0.8333	B		P
Magnesium	8.3922	B		P
Manganese	1.2189	B		P
Molybdenum	0.1800	U		P
Nickel	0.1920	B		P
Phosphorus	4.3811	B		P
Selenium	0.3000	U		P
Silver	0.0900	U		P
Strontium	0.2595	B		P
Thallium	0.3000	U		P
Titanium	0.0600	U		P
Vanadium	0.2400	U		P
Zinc	6.8778	B		P

Color Before: Yellow Clarity Before: Cloudy

Color After: Colorless Clarity After: Clear

Texture:

Artifacts: Fine mesh brown solids left on TCLP Filter.

Comments: Sample = 100 % solids. Pressure filtration of the TCLP solids extract through a standard TCLP pressure filtration unit, containing a 0.7 micron borosilicate glass fiber filter, was performed to obtain the TCLP final sample extract.

## FORM 1A-1

## INORGANIC ANALYSIS DATA SHEET

Lab Name: Building 559 PA Inorganic Laboratories Sample No.: 4  
Lab Sample ID: X-88A1508-004 Bldg 910 Paint Chips Sample  
Section: ICPAES Lab Sample I.D.s beginning with  
X indicates TCLP Extract.  
% Solids for Sample: 100.0000  
Date Sampled: 4/1/88 SDG No.: APR02  
Lab Receipt Date: 4/1/88 QC Report No.: SD040288.RPT  
Matrix: Water \_\_\_\_\_  
Soil \_\_\_\_\_  
Sludge \_\_\_\_\_  
Other X \_\_\_\_\_

## Elements Identified and Measured

Concentration Units: mg/L

Analyte	Concentration	C	N V * E O O S +	Q	M
Aluminum	0.9000	U			P
Antimony	0.3000	U			P
Arsenic	0.3000	U			P
Barium	1.3860	B			P
Beryllium	0.0150	U			P
Cadmium	0.0600	U			P
Calcium	59.1280	B		E	P
Chromium	8.2404	B			P
Cobalt	0.7593	B			P
Copper	0.3000	U			P
Iron	1.5804	B			P
Lead	0.2550	B			P
Magnesium	2.0256	B			P
Manganese	0.3630	B			P
Molybdenum	0.1500	U			P
Nickel	0.1500	U			P
Phosphorus	11.3982	B			P
Selenium	0.3600	U			P
Silver	0.0900	U			P
Strontium	0.0873	B			P
Thallium	0.3000	U			P
Titanium	0.0600	U			P
Vanadium	0.2400	U			P
Zinc	15.1847	B			P

Color Before: Yellow Clarity Before: Cloudy  
Color After: Yellow Clarity After: Clear  
Texture:  
Artifacts: Fine mesh red solids left on TCLP Filter.  
Comments: Sample = 100 % solids. Pressure filtration of the TCLP solids extract through a standard TCLP pressure filtration unit, containing a 0.7 micron borosilicate glass fiber filter, was performed to obtain the TCLP final sample extract.

FORM 1A-1

INORGANIC ANALYSIS DATA SHEET

Lab Name: Building 588 PA Inorganic Laboratories Sample No.: 5  
Lab Sample ID: X-08A1508-005 Bldg 910 Paint Chips Sample  
Section: ICPAES Lab Sample I.D.s beginning with 'X' indicates TCLP Extract.  
% Solids for Sample: 100.0000  
Date Sampled: 4/1/98 SDG No.: APR02  
Lab Receipt Date: 4/1/98 QC Report No.: SD040298.RPT  
Matrix: Water \_\_\_\_\_  
Soil \_\_\_\_\_  
Sludge \_\_\_\_\_  
Other X

Elements Identified and Measured

Concentration Units: mg/L

N V \* E O O S +

Analyte	Concentration	C	Q	M
Aluminum	0.9375	B		P
Antimony	0.3000	U		P
Arsenic	0.3000	U		P
Barium	0.1578	B		P
Beryllium	0.0150	U		P
Cadmium	0.0600	U		P
Calcium	21.1422	B	E	P
Chromium	0.1500	U		P
Cobalt	0.1600	U		P
Copper	0.3000	U		P
Iron	0.8847	B		P
Lead	383.8113			P
Magnesium	1.0088	B		P
Manganese	0.0399	B		P
Molybdenum	0.1500	U		P
Nickel	0.1600	U		P
Phosphorus	1.6000	U		P
Selenium	0.3600	U		P
Silver	0.0900	U		P
Strontium	0.0450	B		P
Thallium	0.3000	U		P
Titanium	0.0600	U		P
Vanadium	0.2400	U		P
Zinc	1.9181	B		P

Color Before: Colorless Clarity Before: Cloudy  
Color After: Colorless Clarity After: Clear

Texture:

Artifacts: Fine mesh red solids left on TCLP filter.

Comments: Sample = 100 % solids. Pressure filtration of the TCLP solids extract through a standard TCLP pressure filtration unit, containing a 0.7 micron borosilicate glass fiber filter, was performed to obtain the TCLP final sample extract.

## FORM 1A-1

## INORGANIC ANALYSIS DATA SHEET

Lab Name: Building 559 PA Inorganic Laboratories Sample No.: 6  
Lab Sample ID: X-98A1506-005 D Bldg 810 Paint Chips Sample Lab Duplicate  
Section: ICPAES Lab Sample I.D.s beginning with  
X\* indicates TCLP Extract.  
% Solids for Sample: 100.0000  
Date Sampled: 4/1/98 SDG No.: APR02  
Lab Receipt Date: 4/1/98 QC Report No.: SD040298.RPT  
Matrix: Water \_\_\_\_\_  
Soil \_\_\_\_\_  
Sludge \_\_\_\_\_  
Other X \_\_\_\_\_

## Elements Identified and Measured

Concentration Units: mg/L

N V \* E O O S \*

Analyte	Concentration	C	Q	M
Aluminum	0.8354	B		P
Antimony	0.3000	U		P
Arsenic	0.3000	U		P
Barium	0.1500	U		P
Beryllium	0.0150	U		P
Cadmium	0.0600	U		P
Calcium	17.7858	B	E	P
Chromium	0.1500	U		P
Cobalt	0.1600	U		P
Copper	0.3196	B		P
Iron	0.6000	U		P
Lead	366.4257			P
Magnesium	0.7494	B		P
Manganese	0.0300	U		P
Molybdenum	0.1500	U		P
Nickel	0.1800	U		P
Phosphorus	1.6000	U		P
Selenium	0.3600	U		P
Silver	0.0900	U		P
Strontium	0.0336	B		P
Thallium	0.3000	U		P
Titanium	0.0600	U		P
Vanadium	0.2400	U		P
Zinc	1.4208	B		P

Color Before: Colorless Clarity Before: Cloudy  
Color After: Colorless Clarity After: Clear

Texture:

Artifacts: Fine mesh red solids left on TCLP Filter.

Comments: Sample = 100 % solids. Pressure filtration of the TCLP solids extract through a standard TCLP pressure filtration unit, containing a 0.7 micron borosilicate glass fiber filter, was performed to obtain the TCLP final sample extract.

FORM 1A-1

INORGANIC ANALYSIS DATA SHEET

Lab Name: Building 559 PA Inorganic Laboratories Sample No.: 7  
Lab Sample ID: X-98A1606-008 Bldg 910 Paint Chips Sample  
Section: ICPAES Lab Sample I.D.s beginning with X indicates TCLP Extract.  
% Solids for Sample: 100.0000  
Date Sampled: 4/1/98 SDG No.: APR02  
Lab Receipt Date: 4/1/98 QC Report No.: SD040298.RPT  
Matrix: Water \_\_\_\_\_  
Soil \_\_\_\_\_  
Sludge \_\_\_\_\_  
Other X \_\_\_\_\_

Elements Identified and Measured

Concentration Units: mg/L

N V \* E O O S +

Analyte	Concentration	C	Q	M
Aluminum	0.9000	U		P
Antimony	0.3000	U		P
Arsenic	0.3000	U		P
Barium	0.6717	B		P
Beryllium	0.0150	U		P
Cadmium	0.0600	U		P
Calcium	250.9161	B	E	P
Chromium	0.1500	U		P
Cobalt	0.1500	U		P
Copper	0.3198	B		P
Iron	1.1355	B		P
Lead	0.2400	U		P
Magnesium	1.6638	B		P
Manganese	0.1275	B		P
Molybdenum	0.1500	U		P
Nickel	0.1500	U		P
Phosphorus	2.5767	B		P
Selenium	0.3600	U		P
Silver	0.0900	U		P
Strontium	0.2183	B		P
Thallium	0.3000	U		P
Titanium	0.0800	U		P
Vanadium	0.2400	U		P
Zinc	2.0964	B		P

Color Before: White Clarity Before: Cloudy  
Color After: Colorless Clarity After: Clear

Texture:

Artifacts: Fine mesh white solids left on TCLP Filter.

Comments: Sample = 100 % solids. Pressure filtration of the TCLP solids extract through a standard TCLP pressure filtration unit, containing a 0.7 micron borosilicate glass fiber filter, was performed to obtain the TCLP final sample extract.

FORM 1A-1

INORGANIC ANALYSIS DATA SHEET

Lab Name: Building 550 PA Inorganic Laboratories Sample No.: 8  
Lab Sample ID: X-88A1506-007 Bldg 910 Paint Chips Sample  
Section: ICPAES Lab Sample I.D.s beginning with 'X' indicates TCLP Extract.  
% Solids for Sample: 100.0000  
Date Sampled: 4/1/88 SDG No.: APR02  
Lab Receipt Date: 4/1/88 QC Report No.: SD040298.RPT  
Matrix: Water \_\_\_\_\_  
Soil \_\_\_\_\_  
Sludge \_\_\_\_\_  
Other X \_\_\_\_\_

Elements Identified and Measured

Concentration Units: mg/L

Analyte	Concentration	C	Q	M
Aluminum	0.9000	U		P
Antimony	0.3000	U		P
Arsenic	0.3000	U		P
Barium	0.1853	B		P
Beryllium	0.0150	U		P
Cadmium	0.0800	U		P
Calcium	666.4770	B	E	P
Chromium	0.1500	U		P
Cobalt	0.2049	B		P
Copper	0.3000	U		P
Iron	0.6000	U		P
Lead	0.2400	U		P
Magnesium	4.7565	B		P
Manganese	1.0905	B		P
Molybdenum	0.1500	U		P
Nickel	0.1500	U		P
Phosphorus	2.7782	B		P
Selenium	0.3600	U		P
Silver	0.0900	U		P
Strontium	1.6784	B		P
Thallium	0.3000	U		P
Titanium	0.0600	U		P
Vanadium	0.2400	U		P
Zinc	0.8130	B		P

Color Before: White Clarity Before: Cloudy  
Color After: Colorless Clarity After: Clear

Texture:

Artifacts: Fine mesh white solids left on TCLP Filter.

Comments: Sample = 100 % solids. Pressure filtration of the TCLP solids extract through a standard TCLP pressure filtration unit, containing a 0.7 micron borosilicate glass fiber filter, was performed to obtain the TCLP final sample extract.

## FORM 1A-1

## INORGANIC ANALYSIS DATA SHEET

Lab Name: Building 559 PA Inorganic Laboratories Sample No.: 9  
Lab Sample ID: X-98A1506-008 Bldg 910 Paint Chips Sample  
Section: ICPAES Lab Sample I.D.s beginning with  
X indicates TCLP Extract.  
% Solids for Sample: 100.0000  
Date Sampled: 4/1/98 SDG No.: APR02  
Lab Receipt Date: 4/1/98 QC Report No.: SD040298.RPT  
Matrix: Water \_\_\_\_\_  
Soil \_\_\_\_\_  
Sludge \_\_\_\_\_  
Other X \_\_\_\_\_

## Elements Identified and Measured

Concentration Units: mg/L

Analyte	Concentration	C	N	V	*	E	O	O	S	+	M
Aluminum	0.9000	U									P
Antimony	0.3000	U									P
Arsenic	0.3000	U									P
Barium	0.3027	B									P
Beryllium	0.0150	U									P
Cadmium	0.0600	U									P
Calcium	847.2161	B				E					P
Chromium	0.1600	U									P
Cobalt	0.1500	U									P
Copper	0.3000	U									P
Iron	0.6000	U									P
Lead	0.2450	U									P
Magnesium	6.2916	B									P
Manganese	0.0300	U									P
Molybdenum	0.1500	U									P
Nickel	0.1600	U									P
Phosphorus	1.5000	U									P
Selenium	0.3600	U									P
Silver	0.0900	U									P
Strontium	1.1253	B									P
Thallium	0.3000	U									P
Titanium	0.0600	U									P
Vanadium	0.2400	U									P
Zinc	0.3000	U									P

Color Before: White Clarity Before: Cloudy  
Color After: Colorless Clarity After: Clear

Texture:

Artifacts: Fine mesh tan solids left on TCLP Filter.

Comments: Sample is 100 % solids. Pressure filtration of the TCLP solids extract through a standard TCLP pressure filtration unit, containing a 0.7 micron borosilicate glass fiber filter, was performed to obtain the TCLP final sample extract.

## FORM 1A-1

## INORGANIC ANALYSIS DATA SHEET

Lab Name: Building 559 PA Inorganic Laboratories Sample No.: 10  
Lab Sample ID: X-98A1506-010 Bldg 810 Paint Chips Sample  
Section: ICPAES Lab Sample I.D.s beginning with  
X\* indicates TCLP Extract.  
% Solids for Sample: 100.0000  
Date Sampled: 4/1/98 SDG No.: APR02  
Lab Receipt Date: 4/1/98 QC Report No.: SD040298.RPT  
Matrix: Water \_\_\_\_\_  
Soil \_\_\_\_\_  
Sludge \_\_\_\_\_  
Other X \_\_\_\_\_

## Elements Identified and Measured

Concentration Units: mg/L

N V \* E O Q S +

Analyte	Concentration	C	Q	M
Aluminum	0.9000	U		P
Antimony	0.3000	U		P
Arsenic	0.3000	U		P
Barium	2.6214	B		P
Beryllium	0.0150	U		P
Cadmium	0.0600	U		P
Calcium	201.6500	B	E	P
Chromium	0.2622	B		P
Cobalt	0.1500	U		P
Copper	0.3000	U		P
Iron	0.6664	B		P
Lead	0.2400	U		P
Magnesium	2.6596	B		P
Manganese	0.5082	B		P
Molybdenum	0.1500	U		P
Nickel	0.1500	U		P
Phosphorus	4.1668	B		P
Selenium	0.3900	U		P
Silver	0.0900	U		P
Strontium	0.1718	B		P
Thallium	0.3000	U		P
Titanium	0.0600	U		P
Vanadium	0.2400	U		P
Zinc	3.2523	B		P

Color Before: White Clarity Before: Cloudy  
Color After: Colorless Clarity After: Clear

Texture:

Artifacts: Fine mesh brown solids left on TCLP Filter.

Comments: Sample = 100 % solids. Pressure filtration of the TCLP solids extract through a standard TCLP pressure filtration unit, containing a 0.7 micron borosilicate glass fiber filter, was performed to obtain the TCLP final sample extract.



FORM 1A-1

INORGANIC ANALYSIS DATA SHEET

Lab Name: Building 559 PA Inorganic Laboratories Sample No.: 11  
Lab Sample ID: X-98A1508-011 Bldg 910 Paint Chips Sample  
Section: ICPAES Lab Sample I.D.s beginning with 'X' indicates TCLP Extract  
% Solids for Sample: 100.0000  
Date Sampled: 4/1/98 SDG No.: APR02  
Lab Receipt Date: 4/1/98 QC Report No.: SD040298.RPT  
Matrix: Water \_\_\_\_\_  
Soil \_\_\_\_\_  
Sludge \_\_\_\_\_  
Other X

Elements Identified and Measured

Concentration Units: mg/l.

N V \* E O O S +

Analyte	Concentration	C	Q	M
Aluminum	0.9579	B		P
Antimony	0.3000	U		P
Arsenic	0.3000	U		P
Barium	0.6680	B		P
Beryllium	0.0150	U		P
Cadmium	0.0600	U		P
Calcium	170.4653	B	E	P
Chromium	0.1800	U		P
Cobalt	0.1500	U		P
Copper	0.4947	B		P
Iron	1.4508	B		P
Lead	0.2400	U		P
Magnesium	2.0433	B		P
Manganese	0.1302	B		P
Molybdenum	0.1500	U		P
Nickel	0.1500	U		P
Phosphorus	3.6291	B		P
Selenium	0.3600	U		P
Silver	0.0900	U		P
Strontium	0.1080	B		P
Thallium	0.3000	U		P
Titanium	0.0800	U		P
Vanadium	0.2400	U		P
Zinc	1.9308	B		P

Color Before: White Clarity Before: Cloudy  
Color After: Colorless Clarity After: Clear

Texture:

Artifacts: Fine mesh brown solids left on TCLP Filter.

Comments: Sample = 100 % solids. Pressure filtration of the TCLP solids extract through a standard TCLP pressure filtration unit, containing a 0.7 micron borosilicate glass fiber filter, was performed to obtain the TCLP final sample extract.

245

## FORM 1A-1

## INORGANIC ANALYSIS DATA SHEET

Lab Name: Building 559 PA Inorganic Laboratories Sample No.: 12  
Lab Sample ID: R BLANK #1 Deionized Water Preparation Blank  
Section: ICPAES Lab Sample I.D.s beginning with  
"X" indicates TCLP Extract.  
% Solids for Sample: < 0.5000  
Date Sampled: 4/2/98 SDG No.: APR02  
Lab Receipt Date: 4/2/98 QC Report No.: SD040298.RPT  
Matrix: Water \_\_\_\_\_  
Soil \_\_\_\_\_  
Sludge \_\_\_\_\_  
Other X

## Elements Identified and Measured

Concentration Units: mg/L

N V \* E O O S +

Analyte	Concentration	C	Q	M
Aluminum	0.3000	U		P
Antimony	0.1000	U		P
Arsenic	0.1000	U		P
Barium	0.0500	U		P
Beryllium	0.0050	U		P
Cadmium	0.0200	U		P
Calcium	0.2000	U		P
Chromium	0.0500	U		P
Cobalt	0.0500	U		P
Copper	0.1000	U		P
Iron	0.2000	U		P
Lead	0.0800	U		P
Magnesium	0.2000	U		P
Manganese	0.0100	U		P
Molybdenum	0.0500	U		P
Nickel	0.0800	U		P
Phosphorus	0.5000	U		P
Selenium	0.1200	U		P
Silver	0.0300	U		P
Strontium	0.0100	U		P
Thallium	0.1000	U		P
Titanium	0.0200	U		P
Vanadium	0.0800	U		P
Zinc	0.1000	U		P

Color Before: Colorless

Clarity Before: Clear

Color After: Colorless

Clarity After: Clear

Texture:

Artifacts: Nothing left on TCLP Filter.

Comments: Sample < 0.50 % solids. Therefore, the filtered sample is taken to be the final TCLP extract. Pressure filtration of the initial sample through a standard TCLP pressure filtration unit, containing a 0.7 micron borosilicate glass fiber filter, was performed to obtain the final TCLP filtered sample extract.

## FORM 1A-1

## INORGANIC ANALYSIS DATA SHEET

Lab Name: Building 569 PA Inorganic Laboratories SAMPLE NO. 13  
 Lab Sample ID: EPA QC-21 Standard  
 Section: ICPAES Lab Sample I.D.s beginning with X' indicates TCLP Extract.  
 % Solids (D - N/A): 0.0000  
 Date Sampled: 4/6/98 SDG No.: APR02  
 Lab Receipt Date: 4/6/98 QC Report No.: SD040298.RPT  
 Matrix: Water X Soil \_\_\_\_\_ Sludge \_\_\_\_\_ Other \_\_\_\_\_

## Elements Identified and Measured

Concentration Units: (mg/L)

Analyte	Concentration	C	Q	M
Aluminum				P
Antimony	3.8347	B		P
Arsenic	3.8510	B		P
Barium				P
Beryllium	3.8339	B		P
Cadmium	3.7950			P
Calcium	4.5540	B		P
Chromium	3.6547	B		P
Cobalt	3.7192	B		P
Copper	3.7675	B		P
Iron	4.1817	B		P
Lead	3.8084	B		P
Magnesium	4.8149	B		P
Manganese	3.9123	B		P
Molybdenum	3.7571	B		P
Nickel	3.8893	B		P
Phosphorus				P
Selenium	3.7991			P
Silver				
Strontium	3.8002	B		P
Thallium	3.5419	B		P
Titanium	3.8535	B		P
Vanadium	3.8266	B		P
Zinc	3.7875	B		P

Color Before:  
Color After:

Clarity Before:  
Clarity After:

Texture:

Artifacts:

Comments:

Sample = 0.00 % Solids, Total Metals Digestion only!  
 EPA QC-21 Trace Metals Aqueous Reference Standard.  
 (External Control Standard).

FORM 1A-1

INORGANIC ANALYSIS DATA SHEET

Lab Name: Building 569 PA Inorganic Laboratories  
Lab Sample ID: EPA QC-7A Standard  
Section: ICPAES  
% Solids (0 - N/A): 0.0000  
Date Sampled: 4/6/98  
Lab Receipt Date: 4/6/98  
Matrix: Water ☒ Soil ☐ Sludge ☐ Other ☐  
SAMPLE NO. 14  
Lab Sample I.D.s beginning with 'X' indicates TCLP Extract  
SDG No.: APR02  
QC Report No.: SD040298.RPT

Elements Identified and Measured

Concentration Units: (mg/L)

Analyte	Concentration	C	Q	M
Aluminum	4.0003	B		P
Antimony				P
Arsenic				P
Barium	3.7957	B		P
Beryllium				P
Cadmium				P
Calcium				P
Chromium				P
Cobalt				P
Copper				P
Iron				P
Lead				P
Magnesium				P
Manganese				P
Molybdenum				P
Nickel				P
Phosphorus				P
Selenium				P
Silver	1.8206	B		P
Strontium				P
Thallium				P
Titanium				P
Vanadium				P
Zinc				P

Color Before:  
Color After:

Clarity Before:  
Clarity After:

Texture:

Artifacts:

Comments:

Sample = 0.00 % Solids. Total Metals Digestion only!  
EPA QC-7A Trace Metals Aqueous Reference Standard.  
(External Control Standard).

4/20/98 APC

X

COVER PAGE

INORGANIC ANALYSES DATA PACKAGE

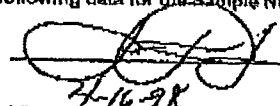
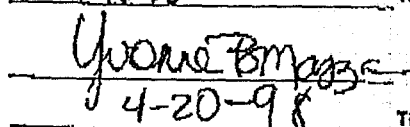
Lab Name: Building 559 PA Inorganic Laboratories SOW No.: 7/93  
Section: ICPEES  
QC Report Number: BD040398.RPT BDG No.: APR03

Lab Sample ID's beginning with 'X' are TCLP Extracts.

Sample No.	APC Sample I. D.	Lab Sample ID.
1	98A1506-001	Bldg 910 Paint Chips Sample
2	98A1506-001 D	Bldg 910 Paint Chips Sample Lab Duplicate
3	98A1506-002	Bldg 910 Paint Chips Sample
4	98A1506-003	Bldg 910 Paint Chips Sample
5	98A1506-004	Bldg 910 Paint Chips Sample
6	98A1506-005	Bldg 910 Paint Chips Sample
7	98A1506-006	Bldg 910 Paint Chips Sample
8	98A1506-007	Bldg 910 Paint Chips Sample
9	98A1506-008	Bldg 910 Paint Chips Sample
10	98A1506-009	Bldg 910 Paint Chips Sample
11	98A1506-010	Bldg 910 Paint Chips Sample
12	98A1506-011	Bldg 910 Paint Chips Sample
13	R BLANK #1	Deionized Water Preparation Blank
14	ERA540-235 STD	ERA540-235 Solid Laboratory Control Standard

Were ICP Inter-element Corrections applied? Yes/No Y  
Were ICP Background Corrections applied? Yes/No Y

I have reviewed the following data for the Sample No.'s listed above.

Signature:   
Date: 4-16-98 Title: Analytical Chemist  
Signature:   
Date: 4-20-98 Title: Reviewer

Comments:

**FAXED**

4/20/98 APO  
again 4/22/98

250

APR-22-98 WED 11:54  
APR-22-98 WED 10:02

BLDG 881 ROOM 112  
RAD LABS

FAX NO. 303 966 3400  
FAX NO. 303 988 2666

P. 03  
P. 12

FORM 1A-1

INORGANIC ANALYSIS DATA SHEET

Lab Name: Building 559 PA Inorganic Laboratories Sample No.: 1  
Lab Sample ID: BA1508-001 Bldg 810 Paint Chips Sample  
Section: ICPAES Lab Sample I.D.s beginning with  
X indicates TCLP Extract.  
% Solids for Sample: 100.0000  
Date Sampled: 4/1/98 SDG No.: APR03  
Lab Receipt Date: 4/1/98 QC Report No.: SD040398.RPT  
Matrix: Water \_\_\_\_\_  
Soil \_\_\_\_\_  
Sludge \_\_\_\_\_  
Other X \_\_\_\_\_

Elements Identified and Measured

Concentration Units: mg/Kg

N V \* E O O S +

Analyte	Concentration	C	Q	M
Aluminum	2184.6841	B		P
Antimony	9.9330	U		P
Arsenic	9.9330	U		P
Barium	4461.3658			P
Beryllium	0.4966	U		P
Cadmium	7.4100	B		P
Calcium	15668.8155	B		P
Chromium	314.1495			P
Cobalt	20.6294	B		P
Copper	1488.6126	B	N	P
Iron	49058.6874	B	E	P
Lead	3233.9210			P
Magnesium	3633.2655	B		P
Manganese	404.5185	B		P
Molybdenum	9.2873	B		P
Nickel	83.5262	B		P
Phosphorus	524.5096	B		P
Selenium	11.9195	U		P
Silver	2.9789	U		P
Strontium	76.4937	B		P
Thallium	25.2297	B	N	P
Tantalum	75.8494	B	E	P
Vanadium	7.9464	U		P
Zinc	276.2255	B		P

Color Before: Colorless

Clarity Before: Clear

Color After: Yellow

Clarity After: Clear

Texture:

Artifacts:

Comments: Sample = 100.00 % Solids. Total Metals Digestion only!

FORM 1A-1

INORGANIC ANALYSIS DATA SHEET

Lab Name: Building 559 PA Inorganic Laboratories Sample No.: 2  
Lab Sample ID: 3A1608-001 D Bldg 810 Paint Chips Sample Lab Duplicate  
Section: ICPAES Lab Sample I.D.s beginning with X\* indicates TCLP Extract.  
% Solids for Sample: 100.0000  
Date Sampled: 4/1/98 SDG No.: APR03  
Lab Receipt Date: 4/1/98 QC Report No.: SD040398.RPT  
Matrix: Water \_\_\_\_\_  
Soil \_\_\_\_\_  
Sludge \_\_\_\_\_  
Other X \_\_\_\_\_

Elements Identified and Measured

Concentration Units: mg/Kg

N V \* E O O S +

Analyte	Concentration	C	Q	M
Aluminum	2184.9928	B		P
Antimony	8.8258	U		P
Arsenic	14.9280	B		P
Barium	5116.1288			P
Beryllium	0.8055	B		P
Cadmium	5.8164	B		P
Calcium	15392.1092	B		P
Chromium	333.2705			P
Cobalt	19.8313	B		P
Copper	1339.7022	B	N	P
Iron	47553.9454	B	E	P
Lead	3468.3970			P
Magnesium	3835.3449	B		P
Manganese	378.6203	B		P
Molybdenum	10.4417	B		P
Nickel	84.0496	B		P
Phosphorus	580.2878	B		P
Selenium	11.9107	U		P
Silver	2.9777	U		P
Strontium	81.3300	B		P
Thallium	26.3524	B	N	P
Titanium	78.9727	B	E	P
Vanadium	7.9404	U		P
Zinc	424.2779	B		P

Color Before: colorless

Clarity Before: Clear

Color After: Yellow

Clarity After: Clear

Texture:

Artifacts:

Comments: Sample = 100.00 % Solids. Total Metals Digestion only



FORM 1A-1

INORGANIC ANALYSIS DATA SHEET

Lab Name: Building 559 PA Inorganic Laboratories Sample No.: 3  
Lab Sample ID: 96A1506-002 Bldg 910 Paint Chips Sample  
Section: ICPAES Lab Sample I.D.s beginning with 'X' indicates TCLP Extract.  
% Solids for Sample: 100.0000  
Date Sampled: 4/1/98 SDG No.: APR03  
Lab Receipt Date: 4/1/98 QC Report No.: SD040398.RPT  
Matrix: Water \_\_\_\_\_  
Soil \_\_\_\_\_  
Sludge \_\_\_\_\_  
Other X \_\_\_\_\_

Elements Identified and Measured

Concentration Units: mg/Kg

Analyte	Concentration	C	Q	M
Aluminum	3463.6842	B		P
Antimony	9.9305	U		P
Arsenic	9.9305	U		P
Barium	133.9424	B		P
Beryllium	0.4965	U		P
Cadmium	2.7607	B		P
Calcium	2891.5988	B		P
Chromium	6064.4568			P
Cobalt	260.3774	B		P
Copper	504.8871	B	N	P
Iron	4225.7696	B	E	P
Lead	3000.6852			P
Magnesium	896.7329	B		P
Manganese	60.2661	B		P
Molybdenum	4.9652	U		P
Nickel	8.9672	B		P
Phosphorus	4630.6654	B		P
Selenium	11.9166	U		P
Silver	2.9791	U		P
Strontium	15.2334	B		P
Thallium	9.9305	U	N	P
Titanium	403.4868	B	E	P
Vanadium	7.9444	U		P
Zinc	6859.5730	B		P

Color Before: Colorless

Clarity Before: Clear

Color After: Yellow

Clarity After: Clear

Texture:

Artifacts:

Comments: Sample = 100.00 % Solids. Total Metals Digestion only

APR-22-98 WED 11:56  
APR-22-98 WED 10:03

BLDG 881 ROOM 112  
RAD LABS

FAX NO. 303 966 3400  
FAX NO. 303 966 2555

P. 06  
P. 10

FORM 1A-1

INORGANIC ANALYSIS DATA SHEET

Lab Name: Building 559 PA Inorganic Laboratories Sample No.: 4

Lab Sample ID: 98A1506-003 Bldg 910 Paint Chips Sample

Section: ICPAES Lab Sample I.D.s beginning with  
X indicates TCLP Extract.

% Solids for Sample: 100.0000

Date Sampled: 4/1/98 BDG No.: APR03

Lab Receipt Date: 4/1/98 QC Report No.: 6D040398.RPT

Matrix: Water \_\_\_\_\_  
Soil \_\_\_\_\_  
Sludge \_\_\_\_\_  
Other X

Elements Identified and Measured

Concentration Units: mg/Kg

N V \* E O O S +

Analyte	Concentration	C	Q	M
Aluminum	813.7711	B		P
Antimony	0.9502	U		P
Arsenic	16.4677	B		P
Barium	159.4677	B		P
Beryllium	0.4975	U		P
Cadmium	8.8552	B		P
Calcium	15935.1244	B		P
Chromium	87.1144	B		P
Cobalt	259.7413	B		P
Copper	270.9066	B	N	P
Iron	87745.1741	B	E	P
Lead	115.8308			P
Magnesium	1382.6806	B		P
Manganese	597.7512	B		P
Molybdenum	11.1741	B		P
Nickel	101.0746	B		P
Phosphorus	392.0398	B		P
Selenium	11.9403	U		P
Silver	2.9851	U		P
Strontium	25.8905	B		P
Thallium	29.2836	B	N	P
Titanium	52.1294	B	E	P
Vanadium	7.9602	U		P
Zinc	263.6522	B		P

Color Before: Colorless

Clarity Before: Clear

Color After: Yellow

Clarity After: Clear

Texture:

Artifacts:

Comments: Sample = 100.00 % Solids. Total Metals Digestion only I

254

APR-22-98 WED 11:57  
APR-22-98 WED 10:03

BLDG 881 ROOM 112  
RAD LABS

FAX NO. 303 966 3400  
FAX NO. 303 966 2555

P. 07  
r. 10

FORM 1A-1

INORGANIC ANALYSIS DATA SHEET

Lab Name: Building 659 PA Inorganic Laboratories

Sample No.: 5

Lab Sample ID: 98A1506-004

Bldg 810 Paint Chips Sample

Section: ICPAES

Lab Sample I.D.s beginning with  
X indicates TCLP Extract.

% Solids for Sample: 100.0000

Date Sampled: 4/1/98

SDG No.: APR03

Lab Receipt Date: 4/1/98

QC Report No.: 8D040398.RPT

Matrix: Water \_\_\_\_\_  
Soil \_\_\_\_\_  
Sludge \_\_\_\_\_  
Other: X \_\_\_\_\_

Elements Identified and Measured

Concentration Units: mg/Kg

N V \* E O O S +

Analyte	Concentration	C	Q	M
Aluminum	2002.3576	B		P
Antimony	9.9478	U		P
Arsenic	9.9478	U		P
Barium	668.1328	B		P
Beryllium	0.4974	U		P
Cadmium	1.9896	U		P
Calcium	11487.2668	B		P
Chromium	1067.7543			P
Cobalt	422.0343	B		P
Copper	47.7195	B	N	P
Iron	20073.3449	B	E	P
Lead	149.0276			P
Magnesium	820.4526	B		P
Manganese	48.0279	B		P
Molybdenum	4.8738	U		P
Nickel	9.7488	B		P
Phosphorus	1348.4810	B		P
Selenium	11.9373	U		P
Silver	2.9843	U		P
Strontium	22.0045	B		P
Thallium	20.8008	B	N	P
Titanium	348.4208	B	E	P
Vanadium	7.9582	U		P
Zinc	1857.1002	B		P

Color Before: Colorless

Clarity Before: Clear

Color After: Yellow

Clarity After: Clear

Texture:

Artifacts:

Comments: Sample = 100.00 % Solids. Total Metals Digestion only !

255

APR-22-98 WED 11:57  
APR-22-98 WED 10:03

BLDG 881 ROOM 112  
RAD LABS

FAX NO. 303 966 3400  
FAX NO. 303 966 2555

P. 08  
P. 17

FORM 1A-1

INORGANIC ANALYSIS DATA SHEET

Lab Name: Building 559 PA Inorganic Laboratories

Sample No.: 6

Lab Sample ID: 98A1508-005

Bldg 810 Paint Chips Sample

Section: ICPAES

Lab Sample I.D.s beginning with  
X indicates TCLP Extract.

% Solids for Sample: 100.0000

Date Sampled: 4/1/98

SDG No.: APR03

Lab Receipt Date: 4/1/98

QC Report No.: 9D040398.RPT

Matrix: Water \_\_\_\_\_  
Soil \_\_\_\_\_  
Sludge \_\_\_\_\_  
Other X \_\_\_\_\_

Elements Identified and Measured

Concentration Units: mg/Kg

Analyte	Concentration	C	N	V	*	E	O	O	S	+	M
Aluminum	2518.4734	B									P
Antimony	9.9133	U									P
Arsenic	9.9133	U									P
Barium	490.6984	B									P
Beryllium	0.4957	U									P
Cadmium	1.9527	U									P
Calcium	1888.2577	B									P
Chromium	9258.0684										P
Cobalt	272.5254	B									P
Copper	15.5737	B	N								P
Iron	16943.1772	B				E					P
Lead	88510.8302										P
Magnesium	845.8704	B									P
Manganese	74.4486	B									P
Molybdenum	9.1996	B									P
Nickel	11.1227	B									P
Phosphorus	481.6059	B									P
Selenium	11.8959	U									P
Silver	2.9740	U									P
Strontium	9.1688	B									P
Thallium	30.7808	B	N								P
Titanium	490.4882	B				E					P
Vanadium	7.8308	U									P
Zinc	544.9715	B									P

Color Before: Colorless

Clarity Before: Clear

Color After: Yellow

Clarity After: Clear

Texture:

Artifacts:

Comments: Sample = 100.00 % Solids. Total Metals Digestion only!

256

FORM 1A-1

INORGANIC ANALYSIS DATA SHEET

Lab Name: Building 559 PA Inorganic Laboratories Sample No.: 7  
Lab Sample ID: 88A1506-006 Bldg 910 Paint Chips Sample  
Section: ICPAES Lab Sample I.D.s beginning with 'X' indicates TCLP Extract.  
% Solids for Sample: 100.0000  
Date Sampled: 4/1/98 SDG No.: APR03  
Lab Receipt Date: 4/1/98 QC Report No.: SD040398.RPT  
Matrix: Water \_\_\_\_\_  
Soil \_\_\_\_\_  
Sludge \_\_\_\_\_  
Other X

Elements Identified and Measured

Concentration Units: mg/Kg

Analyte	Concentration	C	N	V	E	O	S	+
Aluminum	3313.9791	B						
Antimony	9.9354	U						
Arsenic	9.9354	U						
Barium	12891.1674							
Beryllium	0.4968	U						
Cadmium	2.2861	B						
Calcium	6496.2146	B						
Chromium	29.3393	B						
Cobalt	7.1734	B						
Copper	20.5087	B	N					
Iron	1183.0700	B			E			
Lead	55.0025	B						
Magnesium	2589.2201	B						
Manganese	33.0750	B						
Molybdenum	4.9677	U						
Nickel	18.3805	B						
Phosphorus	401.3512	B						
Selenium	11.9225	U						
Silver	2.9806	U						
Strontium	118.9568	B						
Thallium	21.5898	B	N					
Titanium	102.1481	B			E			
Vanadium	7.9483	U						
Zinc	267.7198	B						

Color Before: Colorless

Clarity Before: Clear

Color After: Yellow

Clarity After: Clear

Texture:

Artifacts:

Comments: Sample ~ 100.00 % Solids. Total Metals Digestion only!

FORM 1A-1

INORGANIC ANALYSIS DATA SHEET

Lab Name: Building 559 PA Inorganic Laboratories Sample No.: 8  
Lab Sample ID: 88A1506-007 Bldg 810 Paint Chips Sample  
Section: ICPAES Lab Sample I.D.s beginning with 'X' indicates TCLP Extract.  
% Solids for Sample: 100.0000  
Date Sampled: 4/1/98 SDG No.: APR03  
Lab Receipt Date: 4/1/98 QC Report No.: SD040398.RPT  
Matrix: Water \_\_\_\_\_  
Soil \_\_\_\_\_  
Sludge \_\_\_\_\_  
Other X

Elements Identified and Measured

Concentration Units: mg/Kg

N V \* E O O S +

Analyte	Concentration	C	Q	M
Aluminum	7017.6315	B		P
Antimony	9.9726	U		P
Arsenic	9.9726	U		P
Barium	63.7846	B		P
Beryllium	0.4986	U		P
Cadmium	1.8946	U		P
Calcium	49164.1685	B		P
Chromium	5.9038	B		P
Cobalt	25.7193	B		P
Copper	9.9726	U	N	P
Iron	1119.8903	B	E	P
Lead	13.4131	B		P
Magnesium	1932.2264	B		P
Manganese	78.1750	B		P
Molybdenum	4.9863	U		P
Nickel	4.9863	U		P
Phosphorus	504.2134	B		P
Selenium	11.9671	U		P
Silver	2.9918	U		P
Strontium	71.4934	B		P
Thallium	12.4358	B	N	P
Titanium	229.2196	B	E	P
Vanadium	7.9761	U		P
Zinc	210.4513	B		P

Color Before: Colorless Clarity Before: Clear  
Color After: Yellow Clarity After: Clear  
Texture:  
Artifacts:  
Comments: Sample = 100.00 % Solids. Total Metals Digestion only.

APR-22-98 WED 11:59  
APR-22-98 WED 10:04

BLDG 881 ROOM 112  
RAD LABS

FAX NO. 303 966 3400  
FAX NO. 303 966 2556

P. 11  
P. 20

FORM 1A-1

INORGANIC ANALYSIS DATA SHEET

Lab Name: Building 559 PA Inorganic Laboratories

Sample No.: 9

Lab Sample ID: 98A1508-008

Bldg 910 Paint Chips Sample

Section: ICPAES

Lab Sample I.D.s beginning with  
X' Indicates TCLP Extract

% Solids for Sample: 100.0000

Date Sampled: 4/1/98

SDG No.: APR03

Lab Receipt Date: 4/1/98

QC Report No.: SD040398.RPT

Matrix: Water \_\_\_\_\_  
Soil \_\_\_\_\_  
Sludge \_\_\_\_\_  
Other X

Elements Identified and Measured

Concentration Units: mg/Kg

N V \* E O O S +

Analyte	Concentration	C	Q	M
Aluminum	8940.8735	B		P
Antimony	8.9825	U		P
Arsenic	12.0190	B		P
Barium	95.0037	B		P
Beryllium	0.4991	U		P
Cadmium	1.9966	U		P
Calcium	121294.0354	B		P
Chromium	21.8817	B		P
Cobalt	4.9913	U		P
Copper	23.9381	B	N	P
Iron	4796.4362	B	E	P
Lead	16.9304	B		P
Magnesium	2771.6608	B		P
Manganese	84.0329	B		P
Molybdenum	4.9913	U		P
Nickel	8.2356	B		P
Phosphorus	449.2538	B		P
Selenium	11.9790	U		P
Silver	2.8948	U		P
Strontium	144.8168	B		P
Thallium	24.8169	B	N	P
Titanium	447.6167	B	E	P
Vanadium	11.5797	B		P
Zinc	367.1376	B	*	P

Color Before: colorless

Clarity Before: Clear

Color After: Yellow

Clarity After: Clear

Texture:

Artifacts:

Comments: Sample = 100.00 % Solids. Total Metals Digestion only !

259

APR-22-98 WED 12:00  
APR-22-98 WED 10:05

BLDG 881 ROOM 112  
RAD LABS

FAX NO. 303 966 3400  
FAX NO. 303 966 2550

P. 12  
F. 21

FORM 1A-1

INORGANIC ANALYSIS DATA SHEET

Lab Name: Building 558 PA Inorganic Laboratories Sample No.: 10

Lab Sample ID: 98A1506-008 Bldg 910 Paint Chips Sample

Section: ICPAES Lab Sample I.D.s beginning with 'X' indicates TCLP Extract.

% Solids for Sample: 100.0000

Date Sampled: 4/1/98 SDG No.: APR03

Lab Receipt Date: 4/1/98 QC Report No.: SD040398.RPT

Matrix: Water \_\_\_\_\_  
Soil \_\_\_\_\_  
Sludge \_\_\_\_\_  
Other X \_\_\_\_\_

FAV NO. 303 966 3400  
Elements Identified and Measured

Concentration Units: mg/Kg

Analyte	Concentration	C	N V * E O S +	M
Aluminum	3037.4219	B	Q	P
Antimony	80.9393	B		P
Arsenic	19.9850	U		P
Barium	151.9061	B		P
Beryllium	0.9903	U		P
Cadmium	5.5958	B		P
Calcium	1948.2188	B		P
Chromium	23348.2088			P
Cobalt	170.5321	B		P
Copper	25.0212	B	N	P
Iron	33371.4114	B	E	P
Lead	143.5324			P
Magnesium	6217.2371	B		P
Manganese	234.4242	B		P
Molybdenum	9.9925	U		P
Nickel	9.9926	U		P
Phosphorus	47814.2643	B		P
Selenium	23.9820	U		P
Silver	5.9958	U		P
Strontium	41.3090	B		P
Thallium	19.9850	U	N	P
Titanium	36.9323	B	E	P
Vanadium	15.9880	U		P
Zinc	74491.7112	B		P

Color Before: Colorless

Clarity Before: Clear

Color After: Yellow

Clarity After: Clear

Texture:

Artifacts:

Comments: Sample = 100.00 % Solids. Total Metals Digestion only !

260



APR-22-98 WED 12:01  
APR-22-98 WED 10:05

BLDG 881 ROOM 112  
RAD LABS

FAX NO. 303 966 3400  
FAX NO. 303 966 2556

P. 13  
P. 22

FORM 1A-1

INORGANIC ANALYSIS DATA SHEET

Lab Name: Building 550 PA Inorganic Laboratories Sample No.: 11

Lab Sample ID: 98A1508-010 Bldg 910 Paint Chips Sample

Section: ICPAES Lab Sample I.D.s beginning with  
X indicates TCLP Extract

% Solids for Sample: 100.0000

Date Sampled: 4/1/98 SDG No.: APR03

Lab Receipt Date: 4/1/98 QC Report No.: SD040398.RPT

Matrix: Water \_\_\_\_\_  
Soil \_\_\_\_\_  
Sludge \_\_\_\_\_  
Other X

Elements Identified and Measured

Concentration Units: mg/Kg

N V \* E O O S +

Analyte	Concentration	C	Q	M
Aluminum	34628.1078	B		P
Antimony	9.8936	U		P
Arsenic	12.8914	B		P
Barium	250.8830	B		P
Beryllium	0.4947	U		P
Cadmium	1.9787	U		P
Calcium	93209.7947	B		P
Chromium	8.0534	B		P
Cobalt	4.9468	U		P
Copper	9.8936	U	N	P
Iron	515.6868	B	E	P
Lead	17.5315	B		P
Magnesium	1834.4249	B		P
Manganese	19.3619	B		P
Molybdenum	4.9468	U		P
Nickel	4.9468	U		P
Phosphorus	2304.4175	B		P
Selenium	11.8724	U		P
Silver	2.9881	U		P
Strontium	55.0878	B		P
Thallium	26.5150	B	N	P
Titanium	38.3379	B	E	P
Vanadium	7.9149	U		P
Zinc	826.2083	B		P

Color Before: Colorless

Clarity Before: Clear

Color After: Yellow

Clarity After: Clear

Texture:

Artifacts:

Comments: Sample = 100.00 % Solids. Total Metals Digestion only!

241

FORM 1A-1

INORGANIC ANALYSIS DATA SHEET

Lab Name: Building 569 PA Inorganic Laboratories Sample No.: 12

Lab Sample ID: 98A1506-011 Bldg 910 Paint Chips Sample

Section: ICPAES Lab Sample I.D.s beginning with 'X' indicates TCLP Extract.

% Solids for Sample: 100.0000

Date Sampled: 4/1/98 SDG No.: APR03

Lab Receipt Date: 4/1/98 QC Report No.: SD040398.RPT

Matrix: Water  
Soil  
Sludge  
Other X

FAX NO. 303 966 3400  
Elements Identified and Measured

Concentration Units: mg/Kg N V \* E O O S +

Analyte	Concentration	C	Q	M
Aluminum	29175.2462	B		P
Antimony	9.9975	U		P
Arsenic	9.9975	U		P
Barium	74.4614	B		P
Beryllium	0.4999	U		P
Cadmium	1.9995	U		P
Calcium	90151.1622	B		P
Chromium	6.6983	B		P
Cobalt	4.9988	U		P
Copper	8.9975	U	N	P
Iron	292.6068	B	E	P
Lead	7.9980	U		P
Magnesium	1637.6603	B		P
Manganese	12.8068	B		P
Molybdenum	4.9988	U		P
Nickel	4.9988	U		P
Phosphorus	2660.4599	B		P
Selenium	11.9970	U		P
Silver	2.9993	U		P
Strontium	51.8870	B		P
Thallium	30.5524	B	N	P
Titanium	30.3424	B	E	P
Vanadium	7.9980	U		P
Zinc	771.1372	B		P

Color Before: Colorless

Clarity Before: Clear

Color After: Yellow

Clarity After: Clear

Texture:

Artifacts:

Comments: Sample = 100.00 % Solids. Total Metals Digestion only

262

FORM 1A-1

INORGANIC ANALYSIS DATA SHEET

Lab Name: Building 569 PA Inorganic Laboratories Sample No.: 13  
Lab Sample ID: R BLANK #1 Deionized Water Preparation Blank  
Section: ICPAES Lab Sample I.D.s beginning with  
X\* indicates TCLP Extract.  
% Solids for Sample: < 0.5000  
Date Sampled: 4/6/98 SDG No.: APR03  
Lab Receipt Date: 4/6/98 QC Report No.: SD040398.RPT  
Matrix: Water X  
Soil  
Sludge  
Other

Elements Identified and Measured

Concentration Units: mg/L

N V \* E O O S +

Analyte	Concentration	C	Q	M
Aluminum	0.3000	U		P
Antimony	0.1000	U		P
Arsenic	0.1000	U		P
Barium	0.0500	U		P
Beryllium	0.0050	U		P
Cadmium	0.0200	U		P
Calcium	0.2000	U		P
Chromium	0.0500	U		P
Cobalt	0.0500	U		P
Copper	0.1000	U		P
Iron	0.2000	U		P
Lead	0.0800	U		P
Magnesium	0.2000	U		P
Manganese	0.0100	U		P
Molybdenum	0.0500	U		P
Nickel	0.0500	U		P
Phosphorus	0.5000	U		P
Selenium	0.1200	U		P
Silver	0.0300	U		P
Strontium	0.0100	U		P
Thallium	0.1000	U		P
Titanium	0.0200	U		P
Vanadium	0.0800	U		P
Zinc	0.1000	U		P

Color Before: Colorless Clarity Before: Clear  
Color After: Colorless Clarity After: Clear  
Texture:  
Artifacts:  
Comments: Sample < 0.50 % Solids. Total Metals Digestion only!

FORM 1A-1

INORGANIC ANALYSIS DATA SHEET

Lab Name: Building 559 PA Inorganic Laboratories  
Lab Sample ID: ERA540-235 Standard, (Metals on Soil)  
Section: ICPAES  
% Solids (0 - N/A): 100.0000  
SAMPLE NO. 14  
Lab Sample I.D.s beginning with X\* indicates TCLP Extract.  
Date Sampled: 4/6/98 BDG No.: APR03  
Lab Receipt Date: 4/6/98 QC Report No.: SD040398.RPT  
Matrix: Water \_\_\_\_\_ Soil X Sludge \_\_\_\_\_ Other \_\_\_\_\_

Elements Identified and Measured

Concentration Units: (mg/Kg)

Analyte	Concentration	C	Q	M
Aluminum	3537.8366	B		P
Antimony	23.1626	B		P
Arsenic	147.2895			P
Barium	160.9693	B		P
Beryllium	47.7942	B		P
Cadmium	116.5626			P
Calcium	1701.2541	B		P
Chromium	47.3345	B		P
Cobalt	46.0556	B		P
Copper	55.7982	B		P
Iron	6607.3045	B		P
Lead	68.9783	B		P
Magnesium	1457.6667	B		P
Manganese	239.6103	B		P
Molybdenum	88.0440	B		P
Nickel	114.0445	B		P
Phosphorus	816.5376	B		P
Selenium	105.6308	U		P
Silver	44.3567	B		P
Strontium	93.6797	B		P
Thallium	38.6310	B		P
Titanium	376.2878	B		P
Vanadium	133.3200	B		P
Zinc	852.6005	B		P

Color Before:  
Color After:

Clarity Before:  
Clarity After:

Texture:

Artifacts:

Comments:

Sample = 100.00 % Solids. Total Metals Digestion only/  
CRM020-050 QC Trace Metals Solid Reference Standard.  
(External Control Standard).

## COVER PAGE

# COLD VAPOR AA INORGANIC ANALYSES DATA PACKAGE

**Lab Name:** Building 559 PA Inorganic Laboratories

SOW No.: 7/93

Section: Gold Vapor Atomic Absorption Spectroscopy

QC Report Number: SD040398.HGT

SDG No.: APR03

Lab Sample ID's beginning with 'X' are TCLP Extracts.

Mercury

[illegible]

**I have reviewed the following data for the Sample No.'s listed above.**

**Signature:**

**Date:**

**Title:** Analytical Chemist

**Signature:**

**Date:**

**Title:** Reviewer

**Comments:**

**FAXED**  
4/24/98 APE

245

## FORM 1A-S

## COLD VAPOR AA INORGANIC ANALYSIS DATA SHEET

Lab Name: Building 559 PA Inorganic Laboratories

Sample No.: 1

Lab Sample ID: 98A1508-001

Bldg 910 Paint Chips Sample

Section: Cold Vapor Atomic Absorption Spectroscopy

Lab Sample I.D.s beginning with  
X' indicates TCLP Extract.

% Solids for Sample : 100.0000

Date Sampled: 4/1/98

SDG No.: APR03

Lab Receipt Date: 4/1/98

QC Report No.: SD040398.HGT

Matrix: Water \_\_\_\_\_  
Soil \_\_\_\_\_  
Sludge \_\_\_\_\_  
Other X \_\_\_\_\_

Elements Identified and Measured

Concentration Units: (ug/Kg)

Analyte	Concentration	N V * E O O S +					
		C		Q		M	
Mercury	263.39	B				C	

Color Before:

Clarity Before:

Color After:

Clarity After:

Texture:

Artifacts:

Comments: Sample = 100.00 % Solids. Total Mercury Digestion only !

266

## FORM 1A-8

## COLD VAPOR AA INORGANIC ANALYSIS DATA SHEET

Lab Name: Building 569 PA Inorganic Laboratories

Sample No.: 2Lab Sample ID: 98A1506-001 D

Bldg 810 Paint Chips Sample Lab Duplicate

Section: Cold Vapor Atomic Absorption Spectroscopy

Lab Sample I.D.s beginning with  
'X' indicates TCLP Extract.% Solids for Sample : 100.0000Date Sampled: 4/1/98

SDG No.: APR03

Lab Receipt Date: 4/1/98

QC Report No.: SD040398.HGT

Matrix: Water \_\_\_\_\_  
Soil \_\_\_\_\_  
Sludge \_\_\_\_\_  
Other XElements Identified and Measured

Concentration Units: (ug/Kg)

Analyte	Concentration	N V * E O O S +							
		C	Q						M
Mercury	229.14	B							C

Color Before:

Clarity Before:

Color After:

Clarity After:

Texture:

Artifacts:

Comments: Sample = 100.00 % Solids. Total Mercury Digestion only I

247

## FORM 1A-5

## COLD VAPOR AA INORGANIC ANALYSIS DATA SHEET

Lab Name: Building 559 PA Inorganic Laboratories

Sample No.: 3

Lab Sample ID: 98A1508-002

Bldg 910 Paint Chips Sample

Section: Cold Vapor Atomic Absorption Spectroscopy

Lab Sample I.D.s beginning with  
X' indicates TCLP Extract.

% Solids for Sample : 100.0000

Date Sampled: 4/1/98

SDG No.: APR03

Lab Receipt Date: 4/1/98

QC Report No.: SD040398.HGT

Matrix: Water \_\_\_\_\_  
Soil \_\_\_\_\_  
Sludge \_\_\_\_\_  
Other X \_\_\_\_\_

## Elements Identified and Measured

Concentration Units: (ug/Kg)

N V \* E O O S +

Analyte	Concentration	C	Q	M
Mercury	197.63	U		C

Color Before:

Clarity Before:

Color After:

Clarity After:

Texture:

Artifacts:

Comments: Sample = 100.00 % Solids. Total Mercury Digestion only !

248



APR-24-98 FRI 12:55

BLDG 881 ROOM 112

FAX NO. 303 966 3400

P. 06

APR-24-98 FRI 8:06

RAD LABS

FAX NO. 303 966 2558

P. 06

## FORM 1A-5

## COLD VAPOR AA INORGANIC ANALYSIS DATA SHEET

Lab Name: Building 559 PA Inorganic Laboratories

Sample No.: 4

Lab Sample ID: 98A1506-003

Bldg 910 Paint Chips Sample

Section: Cold Vapor Atomic Absorption Spectroscopy

Lab Sample I.D.s beginning with  
X' indicates TCLP Extract% Solids for Sample : 100.0000Date Sampled: 4/1/98

SDG No.: APR03

Lab Receipt Date: 4/1/98

QC Report No.: SD040398.HGT

Matrix: Water \_\_\_\_\_  
Soil \_\_\_\_\_  
Sludge \_\_\_\_\_  
Other X \_\_\_\_\_

Elements Identified and Measured

Concentration Units: (ug/Kg)

Analyte	Concentration	N V * E O O S +									
		C	Q								M
Mercury	199.50	U									C

Color Before:

Clarity Before:

Color After:

Clarity After:

Texture:

Artifacts:

Comments: Sample = 100.00 % Solids. Total Mercury Digestion only !

269

APR-24-98 FRI 12:55  
APR-24-98 FRI 8:08

BLDG 881 ROOM 112  
RAD LABS

FAX NO. 303 966 3400  
FAX NO. 303 966 2556

P. 07  
P. 07

FORM 1A-5

COLD VAPOR AA INORGANIC ANALYSIS DATA SHEET

Lab Name: Building 559 PA Inorganic Laboratories Sample No.: 5  
Lab Sample ID: 98A1506-004 Bldg 910 Paint Chips Sample  
Section: Cold Vapor Atomic Absorption Spectroscopy Lab Sample I.D.s beginning with  
X' indicates TCLP Extract.  
% Solids for Sample : 100.0000  
Date Sampled: 4/1/98 SDG No.: APR03  
Lab Receipt Date: 4/1/98 QC Report No.: SD040398.HGT  
Matrix: Water \_\_\_\_\_  
Soil \_\_\_\_\_  
Sludge \_\_\_\_\_  
Other X \_\_\_\_\_

Elements Identified and Measured

Concentration Units: (ug/Kg)

		N V * E O O S +			
Analyte	Concentration	C	Q		M
Mercury	199.80	U			C

Color Before:

Clarity Before:

Color After:

Clarity After:

Texture:

Artifacts:

Comments: Sample = 100.00 % Solids. Total Mercury Digestion only !

270

## FORM 1A-6

## COLD VAPOR AA INORGANIC ANALYSIS DATA SHEET

Lab Name: Building 559 PA Inorganic Laboratories

Sample No.: 6

Lab Sample ID: 98A1506-006

Bldg 910 Paint Chips Sample

Section: Cold Vapor Atomic Absorption Spectroscopy

Lab Sample I.D.s beginning with  
X' Indicates TCLP Extract.

% Solids for Sample: 100.0000

Date Sampled: 4/1/98

SDG No.: APR03

Lab Receipt Date: 4/1/98

QC Report No.: SD040398.HGT

Matrix: Water \_\_\_\_\_  
Soil \_\_\_\_\_  
Sludge \_\_\_\_\_  
Other X \_\_\_\_\_

Elements Identified and Measured

Concentration Units: (ug/Kg)

N V \* E O O S +

Analyte	Concentration	C	Q	M
Mercury	198.81	U		C

Color Before:

Clarity Before:

Color After:

Clarity After:

Texture:

Artifacts:

Comments: Sample = 100.00 % Solids, Total Mercury Digestion only !

271

## FORM 1A-5

## COLD VAPOR AA INORGANIC ANALYSIS DATA SHEET

Lab Name: Building 559 PA Inorganic Laboratories

Sample No.: 7Lab Sample ID: 98A1506-006Bldg 910 Paint Chips Sample

Section: Cold Vapor Atomic Absorption Spectroscopy

Lab Sample I.D.s beginning with  
'X' indicates TCLP Extract.% Solids for Sample : 100.0000Date Sampled: 4/1/98

SDG No.: APR03

Lab Receipt Date: 4/1/98

QC Report No.: SD040398.HGT

Matrix: Water \_\_\_\_\_  
Soil \_\_\_\_\_  
Sludge \_\_\_\_\_  
Other X \_\_\_\_\_

## Elements Identified and Measured

Concentration Units: (ug/Kg)

Analyte	Concentration	N V * E O O S +				
		C	Q			M
Mercury	199.20	U				C

Color Before:

Clarity Before:

Color After:

Clarity After:

Texture:

Artifacts:

Comments: Sample = 100.00 % Solids. Total Mercury Digestion only !

APR-24-98 FRI 12:57

BLDG 881 ROOM 112

FAX NO. 303 966 3400

P. 10

APR-24-98 FRI 8:08

RAD LABS

FAX NO. 303 966 2556

P. 10

## FORM 1A-5

## COLD VAPOR AA INORGANIC ANALYSIS DATA SHEET

Lab Name: Building 559 PA Inorganic Laboratories

Sample No.: 8

Lab Sample ID: 88A1508-007

Bldg 910 Paint Chips Sample

Section: Cold Vapor Atomic Absorption Spectroscopy

Lab Sample I.D.s beginning with  
X' indicates TCLP Extract.% Solids for Sample : 100.0000

Date Sampled: 4/1/98

SDG No. : APR03

Lab Receipt Date: 4/1/98

QC Report No.: SD040398.HGT

Matrix: Water \_\_\_\_\_  
Soil \_\_\_\_\_  
Sludge \_\_\_\_\_  
Other X \_\_\_\_\_Elements Identified and Measured

Concentration Units: (ug/Kg)

N V \* E O O S +

Analyte	Concentration	C	Q	M
Mercury	1675.76	B		C

Color Before:

Clarity Before:

Color After:

Clarity After:

Texture:

Artifacts:

Comments: Sample = 100.00 % Solids. Total Mercury Digestion only I

273

APR-24-98 FRI 12:57

BLDG 881 ROOM 112

FAX NO. 303 966 3400

P. 11

APR-24-98 FRI 8:08

RAD LABS

FAX NO. 303 966 2558

P. 11

## FORM 1A-5

## COLD VAPOR AA INORGANIC ANALYSIS DATA SHEET

Lab Name: Building 559 PA Inorganic Laboratories

Sample No.: 9

Lab Sample ID: 98A1508-008

Bldg 910 Paint Chips Sample

Section: Cold Vapor Atomic Absorption Spectroscopy

Lab Sample I.D.s beginning with  
X' indicates TCLP Extract,

% Solids for Sample : 100.0000

Date Sampled: 4/1/98

SDG No.: APR03

Lab Receipt Date: 4/1/98

QC Report No.: SD040398.HGT

Matrix: Water \_\_\_\_\_  
Soil \_\_\_\_\_  
Sludge \_\_\_\_\_  
Other X \_\_\_\_\_

## Elements Identified and Measured

Concentration Units: (ug/Kg)

Analyte	Concentration	N V * E O O S +				
		C	Q	M		
Mercury	199.60	U		C		

Color Before:

Clarity Before:

Color After:

Clarity After:

Texture:

Artifacts:

Comments: Sample = 100.00 % Solids. Total Mercury Digestion only !

274

APR-24-98 FRI 12:58  
APR-24-98 FRI 8:09

BLDG 881 ROOM 112  
RAD LABS

FAX NO. 303 966 3400  
FAX NO. 303 966 2558

P. 12  
P. 12

FORM 1A-6

COLD VAPOR AA INORGANIC ANALYSIS DATA SHEET

Lab Name: Building 559 PA Inorganic Laboratories Sample No.: 10

Lab Sample ID: 98A1505-009 Bldg 910 Paint Chips Sample

Section: Cold Vapor Atomic Absorption Spectroscopy Lab Sample I.D.s beginning with  
X indicates TCLP Extract.

% Solids for Sample : 100.0000

Date Sampled: 4/1/98 SDG No.: APR03

Lab Receipt Date: 4/1/98 QC Report No.: SD040398.HGT

Matrix: Water \_\_\_\_\_  
Soil \_\_\_\_\_  
Sludge \_\_\_\_\_  
Other X \_\_\_\_\_

Elements Identified and Measured

Concentration Units: (ug/Kg)

N V \* E O O S +

Analyte	Concentration	C	Q	M
Mercury	198.61	U		C

Color Before:

Clarity Before:

Color After:

Clarity After:

Texture:

Artifacts:

Comments: Sample = 100.00 % Solids. Total Mercury Digestion only I

275

## FORM 1A-5

## COLD VAPOR AA INORGANIC ANALYSIS DATA SHEET

Lab Name: Building 559 PA Inorganic Laboratories

Sample No.: 11

Lab Sample ID: 98A1508-010

Bldg 910 Paint Chips Sample

Section: Cold Vapor Atomic Absorption Spectroscopy

Lab Sample I.D.s beginning with  
X' indicates TCLP Extract.

% Solids for Sample : 100.0000

Data Sampled: 4/1/98

SDG No. : APR03

Lab Receipt Date: 4/1/98

QC Report No.: SD040398.HGT

Matrix: Water \_\_\_\_\_  
Soil \_\_\_\_\_  
Sludge \_\_\_\_\_  
Other X \_\_\_\_\_

## Elements Identified and Measured

Concentration Units: (ug/Kg)

Analyte	Concentration	C	N	V	*	E	O	D	S	+	M
Mercury	6737.47										C

Color Before:

Clarity Before:

Color After:

Clarity After:

Texture:

Artifacts:

Comments: Sample = 100.00 % Solids. Total Mercury Digestion only I



## FORM 1A-3

## COLD VAPOR AA INORGANIC ANALYSIS DATA SHEET

Lab Name: Building 559 PA Inorganic Laboratories

Sample No.: 12

Lab Sample ID: 98A1506-011

Bldg 910 Paint Chips Sample

Section: Cold Vapor Atomic Absorption Spectroscopy

Lab Sample I.D.s beginning with  
X indicates TCLP Extract.

% Solids for Sample : 100.0000

Date Sampled: 4/1/98

SDG No.: APR03

Lab Receipt Date: 4/1/98

QC Report No.: SD040398.HGT

Matrix: Water \_\_\_\_\_  
Soil \_\_\_\_\_  
Sludge \_\_\_\_\_  
Other X \_\_\_\_\_

## Elements Identified and Measured

Concentration Units: (ug/Kg)

N V \* E O O S +

Analyte	Concentration	C	Q	M
Mercury	1774.73	B		C

Color Before:

Clarity Before:

Color After:

Clarity After:

Texture:

Artifacts:

Comments: Sample = 100.00 % Solids. Total Mercury Digestion only t

## FORM 1A-5

## COLD VAPOR AA INORGANIC ANALYSIS DATA SHEET

Lab Name: Building 569 PA Inorganic Laboratories

Sample No.: 13

Lab Sample ID: R BLANK #1

Deionized Water Preparation Blank

Section: Cold Vapor Atomic Absorption Spectroscopy

Lab Sample I.D.s beginning with  
X' indicates TCLP Extract.

% Solids for Sample : &lt; 0.5000

Date Sampled: 4/21/98

SDG No.: APR03

Lab Receipt Date: 4/21/98

QC Report No.: SD040398.HGT

Matrix: Water X  
Soil \_\_\_\_\_  
Sludge \_\_\_\_\_  
Other \_\_\_\_\_

Elements Identified and Measured

Concentration Units: (ug/L)

Analyte	Concentration	N V * E O O S +									
		C	Q	M							
Mercury	1.00	U		C							

Color Before:

Clarity Before:

Color After:

Clarity After:

Texture:

Artifacts:

Comments: Sample &lt; 0.50 % Solids. Total Mercury Digestion only !

## FORM 1A-5

## COLD VAPOR AA INORGANIC ANALYSIS DATA SHEET

Lab Name: Building 559 PA Inorganic Laboratories  
Lab Sample ID: CRM021 LCSS Standard, (Metals on Soil)  
Section: Cold Vapor Atomic Absorption Spectroscopy  
% Solids (0 - N/A): 100.0000  
Date Sampled: 4/21/98  
Lab Receipt Date: 4/21/98  
Matrix: Water \_\_\_\_\_ Soil \_\_\_\_\_ X \_\_\_\_\_ Sludge \_\_\_\_\_ Other \_\_\_\_\_

SAMPLE NO.  
14

Lab Sample I.D.s beginning with  
X' Indicates TCLP Extract

SDG No.: APR03  
QC Report No.: SD040398.HGT

Elements Identified and Measured

Concentration Units: (ug/Kg)

Analyte	Concentration	C	Q	M
Mercury	4314.7			C

Color Before:

Clarity Before:

Texture:

Color After:

Clarity After:

Artifacts:

Comments:

Sample = 100.00 % Solids. Total Mercury Digestion only!  
CRM003-050 QC Trace Metals Laboratory Control Solid Reference Standard.  
(External Control Standard).

## **Appendix D.3**

### **Bldg. 910 RLC Chemical Data**

**Appendix D.3.1.1**

**Bldg. 910 RLC Chemical Data**

**Beryllium**

**Chain of Custody**

COMMODORE ADVANCED SCIENCES				CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				C.O.C.# 99Z6172#001	
Collector DAVID FARLER	Contact/Requester FARLER, DAVE	Telephone No. 303-966-4340	MSIN	Page 1 of 2		FAX			
RIN 99Z6172	Sampling Origin 662-551-910	Purchase Order/Charge Code NG2200A1							
Project Title	Logbook No. N/A	Ice Chest No.	Temp.						
To (Lab) Johns Manville	Method of Shipment FEDERAL EXPRESS	Bill of Lading/Air Bill No.							
Protocol		Offsite Property No.							
POSSIBLE SAMPLE HAZARDS/REMARKS ** **				SPECIAL INSTRUCTIONS		Hold Time		Total Activity Exemption: Yes <input type="checkbox"/> No <input type="checkbox"/>	
Sample No.	Customer Number	Matrix	Date	Time	Location	No/Type Container	Sample Analysis	Preservative/ Packaging	
99Z6172-001.001	662-99-03-26-31-B1	FILTER			662	1-FILTER N/A	NR01A001 (Beryllium Filter Analysis) [Routine]	N/A	
99Z6172-002.001	662-99-03-26-31-B2	FILTER			662	1-FILTER N/A	NR01A001 (Beryllium Filter Analysis) [Routine]	None	
99Z6172-003.001	662-99-03-26-31-B3	FILTER			662	1-FILTER N/A	NR01A001 (Beryllium Filter Analysis) [Routine]	N/A	
99Z6172-004.001	662-99-03-26-31-B4	FILTER			662	1-FILTER N/A	NR01A001 (Beryllium Filter Analysis) [Routine]	None	
99Z6172-005.001	551-99-03-26-31-B1	FILTER			551	1-FILTER N/A	NR01A001 (Beryllium Filter Analysis) [Routine]	N/A	
99Z6172-006.001	551-99-03-26-31-B2	FILTER			551	1-FILTER N/A	NR01A001 (Beryllium Filter Analysis) [Routine]	None	
99Z6172-007.001	551-99-03-26-31-B3	FILTER			551	1-FILTER N/A	NR01A001 (Beryllium Filter Analysis) [Routine]	N/A	
Relinquished By:	Date/Time	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time	Date/Time	
<i>David Farler</i>	4-1-99 1545	<i>Manly Perkins</i>	4/1/99 1545						
Relinquished By:	Date/Time	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time	Date/Time	
Relinquished By:	Date/Time	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time	Date/Time	
Relinquished By:	Date/Time	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time	Date/Time	
FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)						Disposed By		

[illegible]

# Rocky Flats Environmental Technology Site

RFP F 3791.1 (95)  
Formerly RFP 330

Golden 80402-0464

## Safety and Hygiene Chain of Custody Record and Analysis Request

Name of Originator: DAVID FARKER Title: JH			Bldg/Ext: 131/4340		Date: 4/1/99		Page 1 of 1	
SAMPLE NUMBER Bldg/Y/M/D/P/S#	ANALYZE FOR	VOLUME liters	SAMPLE TIME/	MEDIA	P A B	Personal Area Bulk	REMARKS	Lab Number
662-99-03-26-31-131	ke	-	-	Water	B	NR01A001		
662-99-03-26-31-132								
662-99-03-26-31-133								
662-99-03-26-31-134								
551-99-03-26-31-131								
551-99-03-26-31-132								
551-99-03-26-31-133								
551-99-03-26-31-134								
910-99-03-21-21-131								
910-99-03-21-21-132								
910-99-03-21-21-133								
910-99-03-21-21-134								
910-99-03-26-31-01K								
910-99-03-26-31-05								
910-99-03-26-31-01K								
<div style="display: flex; justify-content: space-between;"> <div> <p>Relinquished by <i>[Signature]</i></p> <p>Relinquished by <i>[Signature]</i></p> <p>Relinquished by <i>[Signature]</i></p> <p>Relinquished by <i>[Signature]</i></p> </div> <div> <p>Received by <i>[Signature]</i></p> <p>Received by <i>[Signature]</i></p> <p>Received by <i>[Signature]</i></p> <p>Received by <i>[Signature]</i></p> </div> <div> <p>Time/Date 4/1/99</p> <p>Time/Date 4/1/99</p> <p>Time/Date 4/1/99</p> <p>Time/Date 4/1/99</p> </div> </div>								

Report and Billing Instruction		Analysis Request	
<p>Kaiser-Hill <input type="checkbox"/></p> <p>RMRS <input type="checkbox"/></p> <p>SSOC <input type="checkbox"/></p> <p>DynCorp <input type="checkbox"/></p> <p>WSI <input type="checkbox"/></p>	<p>Verbal To: 566 3711</p> <p>Fax To: 566 3711</p> <p>Report To: KH</p> <p>Bill To: KH</p> <p>P.O.#/Release: 452200A1</p> <p>Lab: JH</p>	<p>Industrial Hygiene Sample</p> <p><input checked="" type="checkbox"/> Standard Service</p> <p><input type="checkbox"/> Rush</p> <p>Asbestos Samples</p> <p><input type="checkbox"/> 24 Rush</p> <p><input type="checkbox"/> 2 Rush</p>	<p>Seal# (Release #) 5926172</p> <p>Condition of Seal: <input type="checkbox"/> Broken <input type="checkbox"/> Unbroken</p> <p>Signature: <i>[Signature]</i></p> <p>Comments: Available to Verify</p>

281

White - Return to Originator    Yellow - Lab Copy    Green - Sample Custodian    Blue - Originator



## **Appendix D.3.1.2**

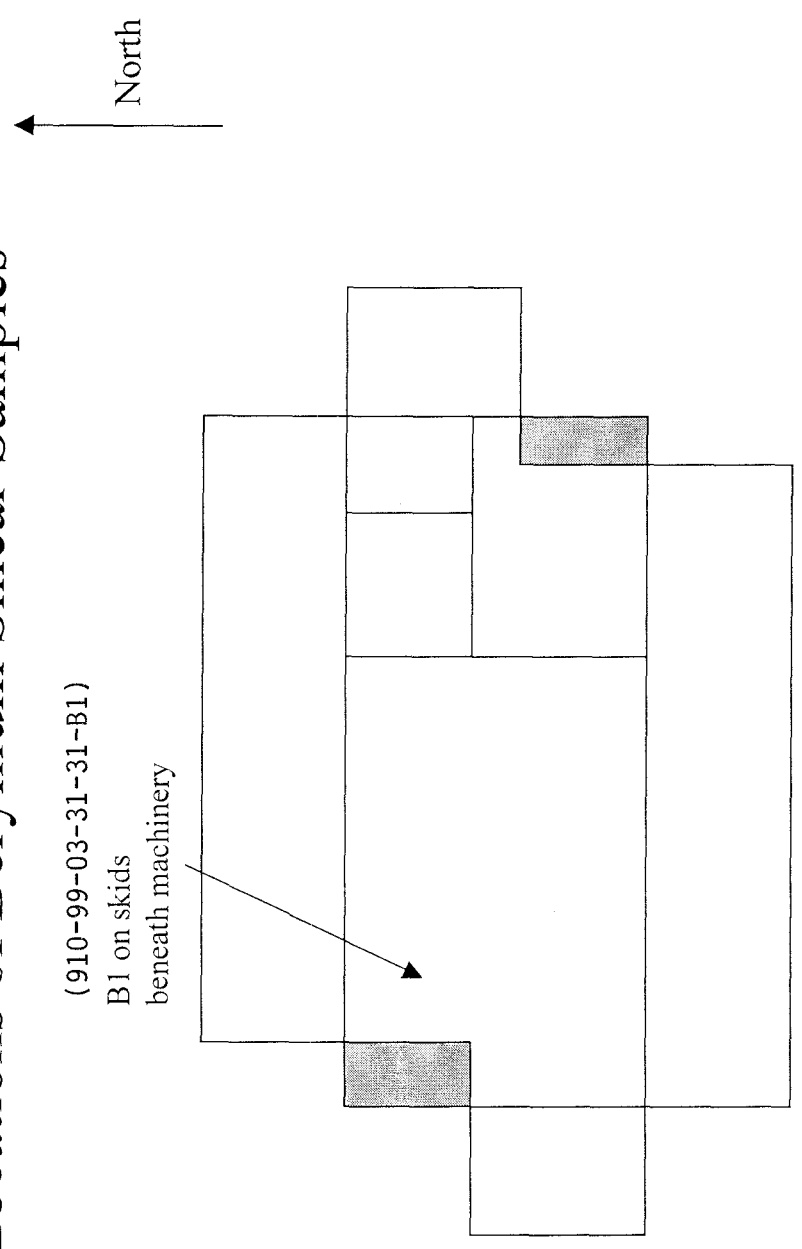
### **Bldg. 910 RLC Chemical Data**

#### **Beryllium**

#### **Sample Locations**

# Building 910 - First Floor Floor & Walls

## Locations of Beryllium Smear Samples



Group A RLCP Survey

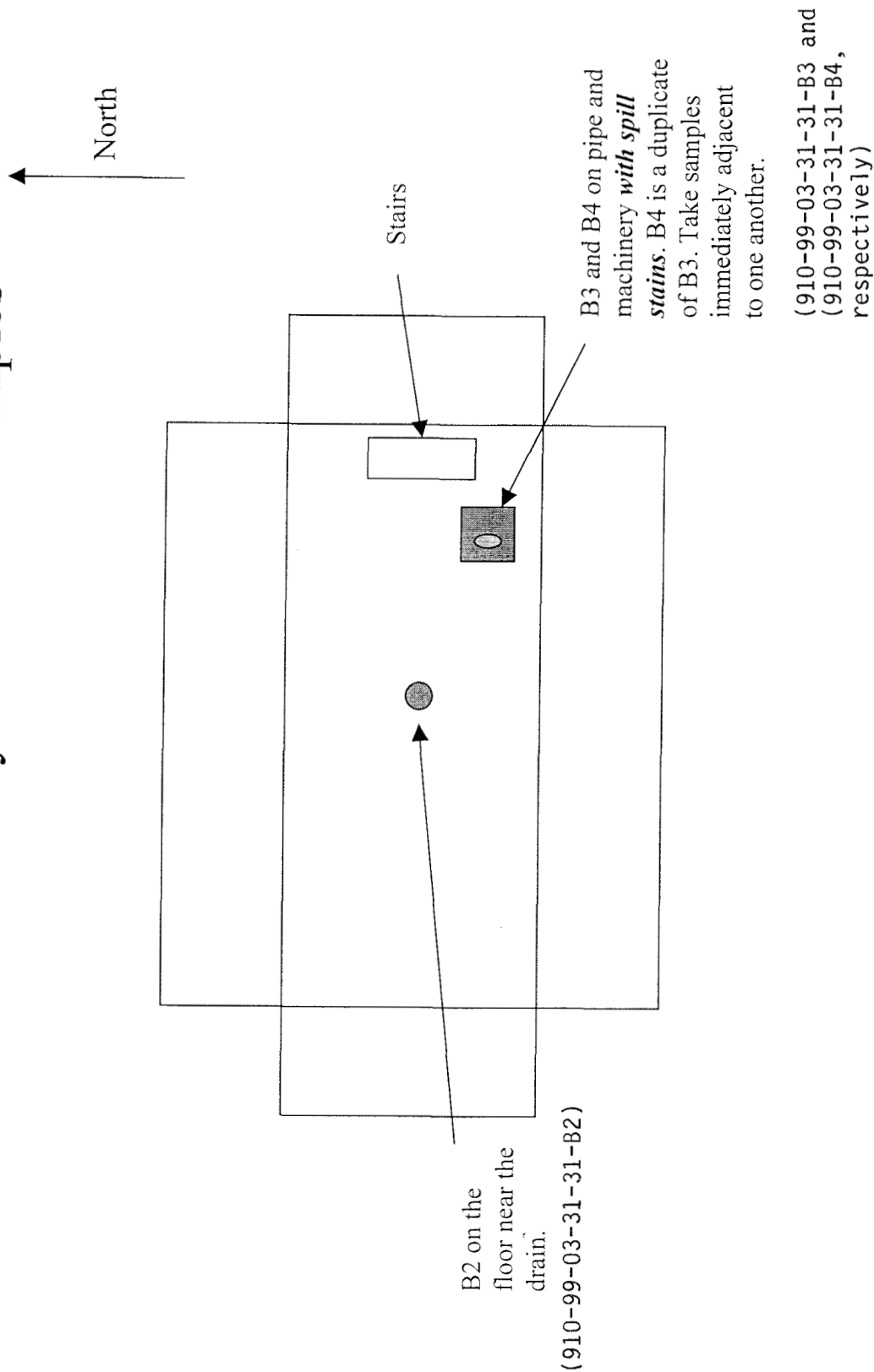
60/62

R1

286

# Building 910 - Basement Floor & Walls

## Locations of Beryllium Smear samples



Group A RLCP Survey

61/62

P1

287

**Appendix D.3.1.3**

**Bldg. 910 RLC Chemical Data**

**Beryllium**

**Laboratory Report**

**Johns Manville**

Johns Manville Corporation  
10100 W. Ute Avenue (80127)  
P.O. Box 625005  
Littleton, CO 80162-5005  
303 978 2000

## Cover Page

Apr-8-99

Rocky Flats Environmental Technology Site  
Mr. Roger Cichorz  
P.O. Box 464  
Building 881  
Golden, CO 80402-0464

Laboratory Project No.: 99040109  
Client: Kaiser Hill  
PO# / Release #: NG2200A1  
Site Sample #: NR01/IH01  
Seal #: 99Z6172  
Requestor: Dave Farler

Dear Mr. Cichorz,

The Johns Manville Technical Center (JMTC) has performed the following analytical services as requested. The results are calculated based upon the information supplied on the submission form. All laboratory data has been filed and are available upon request. The industrial hygiene laboratory at JMTC has been fully accredited in all aspects by the American Industrial Hygiene Association (AIHA) since 1976. If you have any questions, please call (303) 978-2584.

### Scope of Work:

Analysis	# of Samples	Matrix	Method	Reporting Limit	OSHA Standard (TWA)
Beryllium	13	Whatman filter	EPA-SW846-3051/OSHA ID-121	0.1 µg	-
Beryllium	2	MCE filter	NIOSH 7300	0.01 µg	0.002 mg/m3

I certify that this data package is in compliance with the terms and conditions of the subcontract, both technically and for completeness, other than the conditions detailed above. Release of the data contained in this hard data package has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Scott A. Steiner  
Industrial Hygiene Laboratory Manager

4-8-99

Date

280  
289

303-978-2584  
Scott

## **Appendix D.3.1.4**

### **Bldg. 910 RLC Chemical Data**

#### **Beryllium**

#### **Laboratory Data**

# JOHNS MANVILLE TECHNICAL CENTER (JMTC)

Apr-8-99

Laboratory Project No.: 99040109  
 Client: Kaiser Hill  
 PO#/Release #: NG2200A1  
 Site Sample #: NR01/IH01  
 Seal #: 99Z6172  
 Requestor: Dave Farler

APR 12 '99 10:27 FR MTC IH LAB

303 978 3005 TO 93039667924

P.06/13

TABLE I: Sample Results

Client Sample No.	Laboratory Sample No.	Analysis	Method	Matrix	Reporting Limit	Total
662-99-03-26-31-B1	99040109-001	Beryllium	EPA-SW846-3051/OSHA ID-121	Whatman filter	0.1 µg	< 0.1 µg
662-99-03-26-31-B2	99040109-002	Beryllium	EPA-SW846-3051/OSHA ID-121	Whatman filter	0.1 µg	< 0.1 µg
662-99-03-26-31-B3	99040109-003	Beryllium	EPA-SW846-3051/OSHA ID-121	Whatman filter	0.1 µg	< 0.1 µg
662-99-03-26-31-B4	99040109-004	Beryllium	EPA-SW846-3051/OSHA ID-121	Whatman filter	0.1 µg	< 0.1 µg
551-99-03-26-31-B1	99040109-005	Beryllium	EPA-SW846-3051/OSHA ID-121	Whatman filter	0.1 µg	< 0.1 µg
551-99-03-26-31-B2	99040109-006	Beryllium	EPA-SW846-3051/OSHA ID-121	Whatman filter	0.1 µg	< 0.1 µg
551-99-03-26-31-B3	99040109-007	Beryllium	EPA-SW846-3051/OSHA ID-121	Whatman filter	0.1 µg	< 0.1 µg
551-99-03-26-31-B4	99040109-008	Beryllium	EPA-SW846-3051/OSHA ID-121	Whatman filter	0.1 µg	< 0.1 µg
910-99-03-31-31-B1	99040109-009	Beryllium	EPA-SW846-3051/OSHA ID-121	Whatman filter	0.1 µg	< 0.1 µg
910-99-03-31-31-B2	99040109-010	Beryllium	EPA-SW846-3051/OSHA ID-121	Whatman filter	0.1 µg	< 0.1 µg
910-99-03-31-31-B3	99040109-011	Beryllium	EPA-SW846-3051/OSHA ID-121	Whatman filter	0.1 µg	< 0.1 µg
910-99-03-31-31-B4	99040109-012	Beryllium	EPA-SW846-3051/OSHA ID-121	Whatman filter	0.1 µg	< 0.1 µg
910-99-03-31-31-BLK	99040109-013	Beryllium	EPA-SW846-3051/OSHA ID-121	Whatman filter	0.1 µg	< 0.1 µg

291

# JOHNS MANVILLE TECHNICAL CENTER (JMTC)

APR 12 '99 10:27 FR MTC IH LAB

303 978 3005 TO 93039667924

P.07/13

Laboratory Project No.: 99040109  
 Client: Kaiser Hill  
 PO#/Release #: NG2200A1  
 Site Sample #: NR01/IH01  
 Seal #: 99Z6172  
 Requestor: Dave Farler

Apr-8-99

TABLE I: Sample Results

Client Sample No.	Laboratory Sample No.	Analysis	Method	Matrix	Reporting Limit	Backup Section	Main Section	Total	Air Vol. / Time	Air Concentration
910-99-03-26-31-05	99040109-014	Beryllium	NIOSH 7300	MCE filter	0.01 µg			< 0.01 ug		
910-99-03-28-31-BLK	99040109-015	Beryllium	NIOSH 7300	MCE filter	0.01 µg			< 0.01 ug		

292



# JOHNS MANVILLE TECHNICAL CENTER (JMTC)

Apr-8-99

Laboratory Project No.: 99040109  
 Client: Kaiser Hill  
 PO#/Release #: NG2200A1  
 Site Sample #: NR01/IH01  
 Seal #: 99Z6172  
 Requestor: Dave Farler

TABLE II: Quality Control

QC No.	Analyte	Method	Matrix	Reporting Limit	Amount Spiked	Amount Recovered	Percent Recovery
Media Blank	Beryllium	EPA-SW846-3051/OSHA ID-121	Whatman filter	0.1 µg	N/A	< 0.1 ug	
Q9-164	Beryllium	EPA-SW846-3051/OSHA ID-121	Whatman filter	0.1 µg	5.0 ug	4.79 ug	95.8%
Media Blank	Beryllium	NIOSH 7300	MCE filter	0.01 µg	N/A	< 0.01 ug	
MBS	Beryllium	NIOSH 7300	Solution	0.001 µg/ml	0.5 ug/ml	0.485 ug/ml	97.0%

Analyst:

Anthony Carr

Quality Assurance:

Dennis Murray

AIHA Accreditation No. 056

293

## **Appendix F**

**Pad 904 Tent 11**

## **Appendix F.1**

### **Pad 904 Tent 11 Historical Radiological Data**

## **Appendix F.1.1**

### **Pad 904 Tent 11 Historical Radiological Data**

#### **Radiological Surveys**

# INFORMATION ONLY

## RADIOLOGICAL CONTAMINATION SURVEY FORM

PAGE 1 OF 2

LOG NUMBER:	
FOR: P/WRE	PRL
RWP	OTHER
BUILDING/LOCATION:	ROOM:
904 PAD	tent 11
DATE:	TIME:
01-07-98	1310
ITEM DESCRIPTION: Weekly Survey	
COMMENTS:	
PERFORMED BY (PRINT NAME): L. HARRIS	
RCT SIGNATURE	DATE
	01-07-98
EMP#	

### REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR: EBER. EBER. EBER. EBER.  
 MODEL: S.A.C. - 4 S.A.C. - 4 S.A.C. - 4 S.A.C. - 4  
 SERIAL #: 956 1050  
 CAL DATE: 9-12-97 9-16-97  
 CAL DUE DATE: 3-12-98 3-16-98

MFR: EBER. EBER. EBER. EBER.  
 MODEL: B.C. 4 B.C. 4 B.C. 4 B.C. 4  
 SERIAL #: BC 838  
 CAL DATE: 1-6-98  
 CAL DUE DATE: 7-6-98

### TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR: N.E. TECH  
 MODEL: ELECTRA  
 SERIAL #:   
 CAL DATE:   
 CAL DUE DATE:   
 BACKGROUND:   
 EFFICIENCY:   
 MDA:   
 MDA = CF X [2.71 + 4.65] ☒ BACKGROUND (CPM)]

REVIEWED BY:

THysher

RO SUPERVISION PRINT NAME

1/14/98  
 DATE

RO SUPERVISION SIGNATURE

297

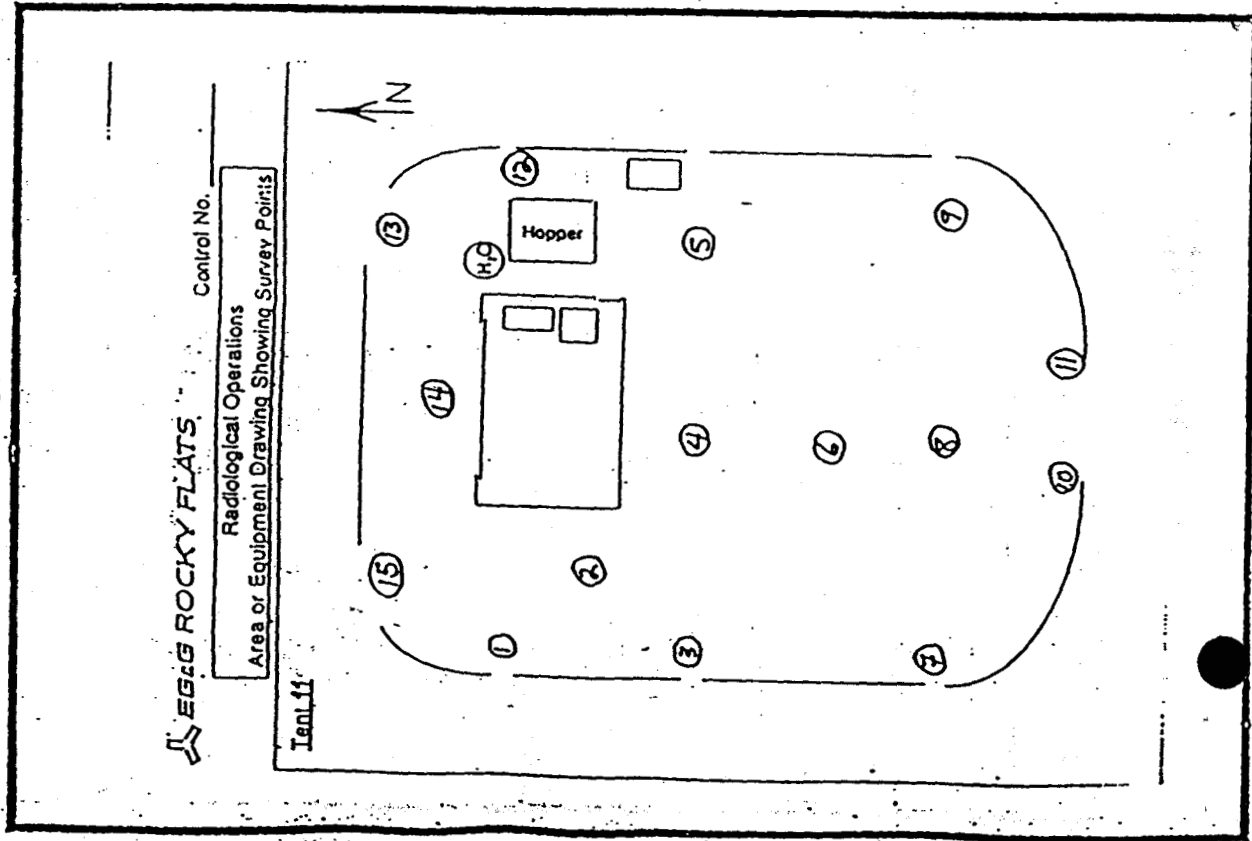
# RADIOLOGICAL CONTAMINATION SURVEY FORM

PAGE 2 OF 2

LOG NUMBER:

SURVEY RESULTS (DPM/100 CM<sup>2</sup>)

SKETCH



SWIPE	LOCATION/DESCRIPTION	REMOVABLE		TOTAL ALPHA IPR/100 CM <sup>2</sup>	TOTAL BETA/ GROSS
		ALPHA	BETA IPR/100 CM <sup>2</sup>		
1		418	2205	660	2455
2		418	2205	660	2455
3		418	2205	660	2455
4		418	2205	660	2455
5		418	2205	660	2455
6		418	2205	660	2455
7		418	2205	660	2455
8		418	2205	660	2455
9		418	2205	660	2455
10		418	2205	660	2455
11		418	2205	660	2455
12		418	2205	660	2455
13		418	2205	660	2455
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95		418	2205	660	2455
96		418	2205	660	2455
97		418	2205	660	2455
98		418	2205	660	2455
99		418	2205	660	2455
100		418	2205	660	2455

298

# INFORMATIONAL ONLY CONTAMINATION SURVEY FORM

PAGE 1 OF 2

## REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

LOG NUMBER: _____	
FOR: _____ P/WRE _____ PRL _____	
RWP _____ OTHER <u>Routine</u>	
BUILDING/LOCATION: <u>904 Pad</u>	ROOM: <u>Tent 11</u>
DATE: <u>1-16-98</u>	TIME: <u>0900</u>
ITEM DESCRIPTION: <u>Weekly Control Point Survey</u>	
COMMENTS: _____	
PERFORMED BY (PRINT NAME): <u>[Signature]</u>	
RCT SIGNATURE	DATE <u>1-16-98</u>

MFR: \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_  
 MODEL: \_\_\_\_\_ S.A.C. - 4 \_\_\_\_\_ S.A.C. - 4 \_\_\_\_\_ S.A.C. - 4 \_\_\_\_\_  
 SERIAL #: 1050 959  
 CAL DATE: 9-16-97 9-12-97  
 CAL DUE DATE: 3-16-98 3-12-98

MFR: \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_  
 MODEL: \_\_\_\_\_ B.C. 4 \_\_\_\_\_ B.C. 4 \_\_\_\_\_ B.C. 4 \_\_\_\_\_  
 SERIAL #: 86838  
 CAL DATE: 1-7-98 1-6-98  
 CAL DUE DATE: 7-7-98 7-6-98

## TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR: \_\_\_\_\_ N.E. TECH \_\_\_\_\_  
 MODEL: \_\_\_\_\_ ELECTRA \_\_\_\_\_  
 SERIAL #: \_\_\_\_\_  
 CAL DATE: \_\_\_\_\_  
 CAL DUE DATE: \_\_\_\_\_  
 BACKGROUND: \_\_\_\_\_  
 EFFICIENCY: \_\_\_\_\_  
 MDA: \_\_\_\_\_

MDA = CF X [2.71 + 4.65] ☒ BACKGROUND (CFM)]

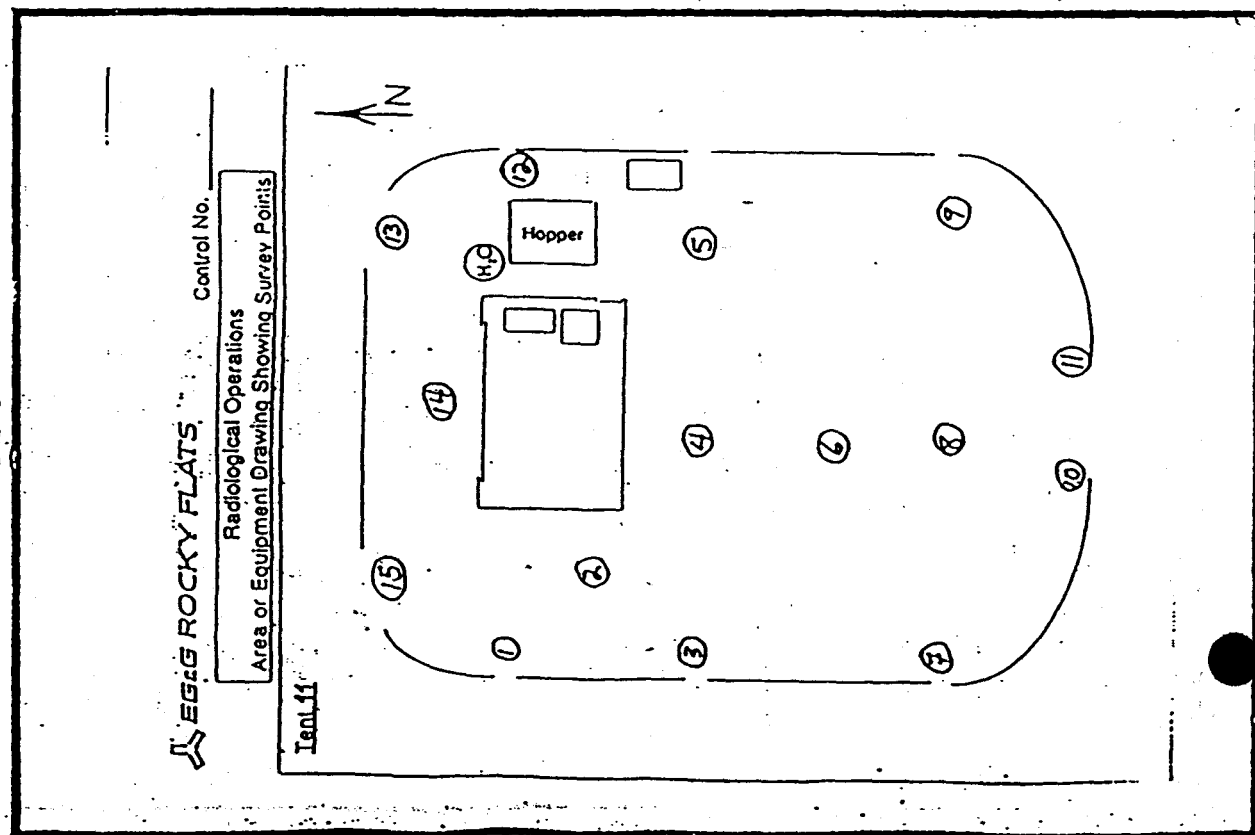
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[Signature] / 1/19/98 DATE  
[Signature] RO SUPERVISION SIGNATURE

299

## RADIOLOGICAL CONTAMINATION SURVEY FORM

**SURVEY RESULTS (DPM/100 CM<sup>2</sup>)**

## SKETCH

[illegible]

200



# **INFORMATION ONLY** RADIOLOGICAL CONTAMINATION SURVEY FORM

PAGE 1 OF 2

LOG NUMBER: _____	
FOR: _____ P/WRE _____ PRL _____	
_____ RWP _____ OTHER <u>Routine</u>	
BUILDING/LOCATION: <u>904 Lab</u>	ROOM: <u>1 ent 11</u>
DATE: <u>1-22-98</u>	TIME: <u>0830</u>
ITEM DESCRIPTION: <u>Weekly Control Point Survey</u>	
COMMENTS: _____	
PERFORMED BY (PRINT NAME): <u>[Redacted]</u> DATE: <u>1-22-98</u>	
RCT SIGNATURE _____	

## REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR: _____	EBER. _____	EBER. _____	EBER. _____
MODEL: _____	S.A.C. - 4 _____	S.A.C. - 4 _____	S.A.C. - 4 _____
SERIAL #: _____	<u>1050</u>	<u>959</u>	
CAL DATE: _____	<u>9-16-97</u>	<u>9-12-97</u>	
CAL DUE DATE: _____	<u>3-16-98</u>	<u>3-12-98</u>	

MFR: _____	EBER. _____	EBER. _____	EBER. _____
MODEL: _____	B.C. 4 _____	B.C. 4 _____	B.C. 4 _____
SERIAL #: _____	<u>Rc776</u>	<u>Rc838</u>	
CAL DATE: _____	<u>1-7-98</u>	<u>1-6-98</u>	
CAL DUE DATE: _____	<u>7-7-98</u>	<u>7-6-98</u>	

## TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR: _____	N.E. TECH _____
MODEL: _____	ELECTRA _____
SERIAL #: _____	
CAL DATE: _____	
CAL DUE DATE: _____	
BACKGROUND: _____	
EFFICIENCY: _____	
MDA: _____	

MDA = CF X [2.71 + 4.65] ☒ BACKGROUND (CPM)]

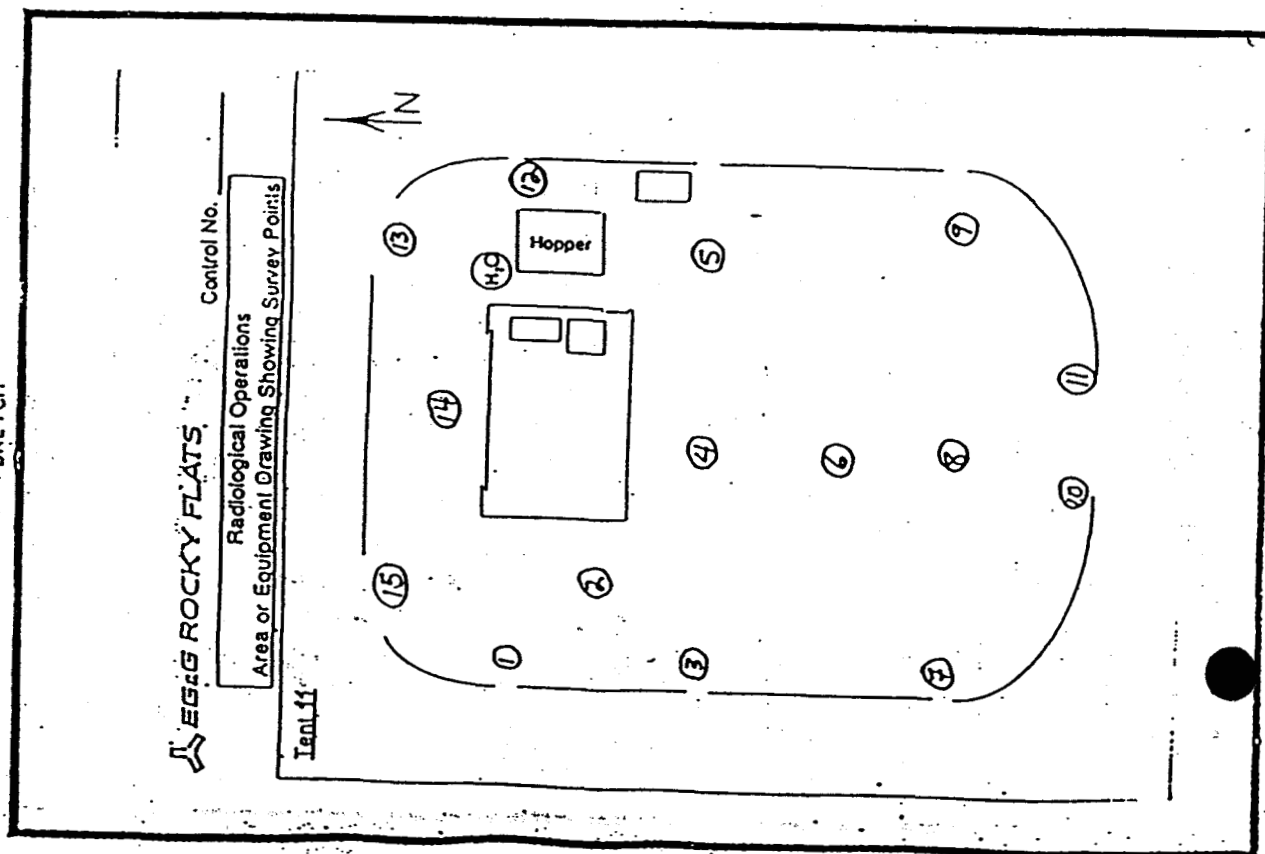
REVIEWED BY: TH. psher RO SUPERVISION PRINT NAME

OK 1/27/98 DATE

301

## SKETCH

SURVEY RESULTS (DPM/100 CM<sup>2</sup>)

[illegible]

302

# INFORMATION ONLY

PAGE 1 OF 2

LOG NUMBER: _____	
FOR: _____ PWRE _____ PRL _____	OTHER <u>Routine</u>
BUILDING/LOCATION: <u>904 Pad</u>	ROOM: <u>T-11</u>
DATE: <u>1-29-98</u>	TIME: <u>0800</u>
ITEM DESCRIPTION: <u>Weekly Control Point Survey</u>	
COMMENTS:	
PERFORMED BY (PRINT NAME): <u>Thyber</u> EMP# <u>1-29-98</u> DATE	

## REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	<u>1050</u>	<u>954</u>	
CAL DATE:	<u>7-16-97</u>	<u>9-12-97</u>	
CAL DUE DATE:	<u>3-16-98</u>	<u>3-12-98</u>	
MFR:	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	<u>Bc 270</u>	<u>Bc 838</u>	
CAL DATE:	<u>1-7-98</u>	<u>1-6-98</u>	
CAL DUE DATE:	<u>7-7-98</u>	<u>7-6-98</u>	

## TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH
MODEL:	ELECTRA
SERIAL #:	
CAL DATE:	
CAL DUE DATE:	
BACKGROUND:	
EFFICIENCY:	
MDA:	

REVIEWED BY: Thyber RO SUPERVISION PRINT NAME

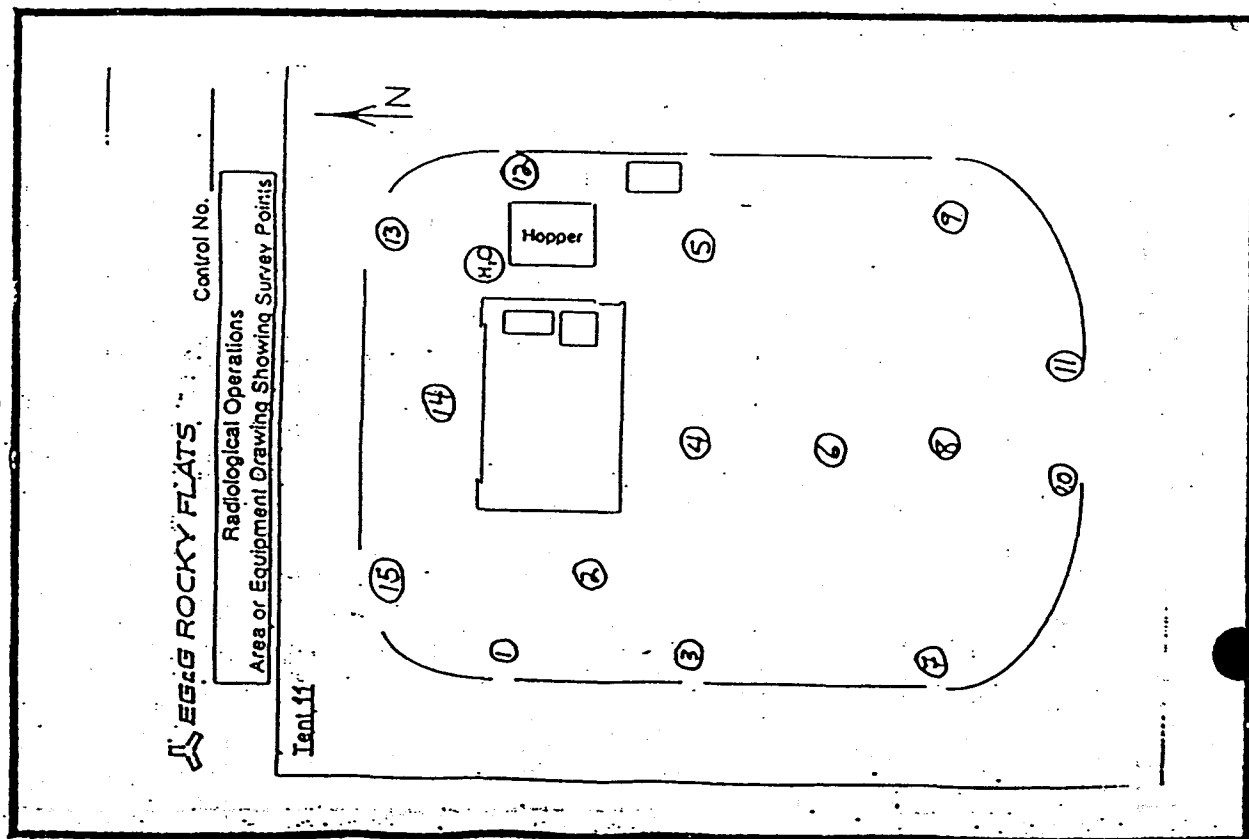
RO SUPERVISION SIGNATURE [Signature] DATE 1/23/98

MDA = CF X [2.71 + 4.65] √ BACKGROUND (CPM)]

303

**SURVEY RESULTS (DPM/100 CM<sup>2</sup>)**

## SKETCH

[illegible]

304

# INFORMATION ONLY

## RADIOLOGICAL CONTAMINATION SURVEY FORM

PAGE 1 OF 2

LOG NUMBER:	
FOR: P/WRE PRL	OTHER ROUTINE
BUILDING/LOCATION: 904 Pnd	ROOM: Tent 11
DATE: 2-5-98	TIME: 1020
ITEM DESCRIPTION: Weekly Survey	
COMMENTS:	
PERFORMED BY (PRINT NAME): J. Harbi	
RCT SIGNATURE	DATE: 2-5-98
EMP#	

### REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR: EBER. EBER. EBER. EBER.  
 MODEL: S.A.C.-4 S.A.C.-4 S.A.C.-4 S.A.C.-4  
 SERIAL #: 1050 959  
 CAL DATE: 9-16-97 9-12-97  
 CAL DUE DATE: 3-16-98 3-12-98

MFR: EBER. EBER. EBER. EBER.  
 MODEL: B.C.4 B.C.4 B.C.4 B.C.4  
 SERIAL #: BC 270 BC 838  
 CAL DATE: 1-7-98 1-6-98  
 CAL DUE DATE: 7-7-98 7-6-98

### TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR: N.E. TECH  
 MODEL: ELECTRA  
 SERIAL #:  
 CAL DATE:  
 CAL DUE DATE:  
 BACKGROUND:  
 EFFICIENCY:  
 MDA:

REVIEWED BY: THYPSHER  
 RO SUPERVISION PRINT NAME  
 DATE: 2/12/98

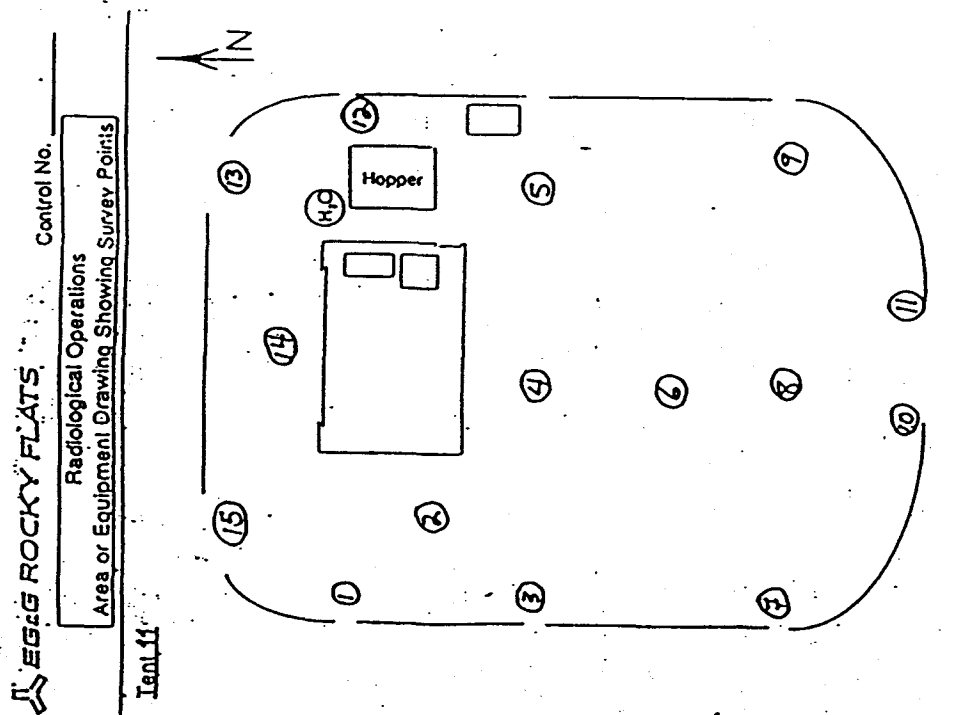
MDA = CF X [2.71 + 4.65] BACKGROUND (CPM)

306

30 \_\_\_\_\_ PAGE 30VJ

SURVEY RESULTS (DPM/100 CM<sup>2</sup>)

## SKETCH

[illegible]

~~2112-5-2~~

# INFORMATION ONLY

## RADIOLOGICAL CONTAMINATION SURVEY FORM

PAGE 1 OF 2

LOG NUMBER: _____	
FOR: _____ P/WRE _____ PRL _____	
_____ RWP _____ OTHER <u>Routine</u>	
BUILDING/LOCATION: <u>904 Pad</u>	ROOM: <u>11</u>
DATE: <u>2-12-98</u>	TIME: <u>0800</u>
ITEM DESCRIPTION: <u>Weekly Contamination Control Point Survey</u>	
COMMENTS: _____	
PERFORMED BY (PRINT NAME): <u>MA</u>	
DATE: <u>2-12-98</u>	
SIGNATURE: _____	

### REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR: _____	EBER. _____	EBER. _____	EBER. _____
MODEL: _____	S.A.C. - 4 _____	S.A.C. - 4 _____	S.A.C. - 4 _____
SERIAL #: _____	<u>1050</u>	<u>954</u>	
CAL DATE: _____	<u>9-16-97</u>	<u>9-12-97</u>	
CAL DUE DATE: _____	<u>3-16-98</u>	<u>3-12-98</u>	

MFR: _____	EBER. _____	EBER. _____	EBER. _____
MODEL: _____	B.C. 4 _____	B.C. 4 _____	B.C. 4 _____
SERIAL #: _____	<u>Bc770</u>	<u>Bc830</u>	
CAL DATE: _____	<u>1-7-98</u>	<u>1-6-98</u>	
CAL DUE DATE: _____	<u>7-7-98</u>	<u>7-6-98</u>	

### TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR: _____	N.E. TECH _____
MODEL: _____	ELECTRA _____
SERIAL #: _____	
CAL DATE: _____	
CAL DUE DATE: _____	
BACKGROUND: _____	
EFFICIENCY: _____	
MDA: _____	

MDA = CF X [2.71 + 4.65  $\sqrt{\text{BACKGROUND (CPM)}}$ ]

REVIEWED BY: Thyphsher RO SUPERVISION PRINT NAME

Chk 12/23/98 DATE

RO SUPERVISION SIGNATURE

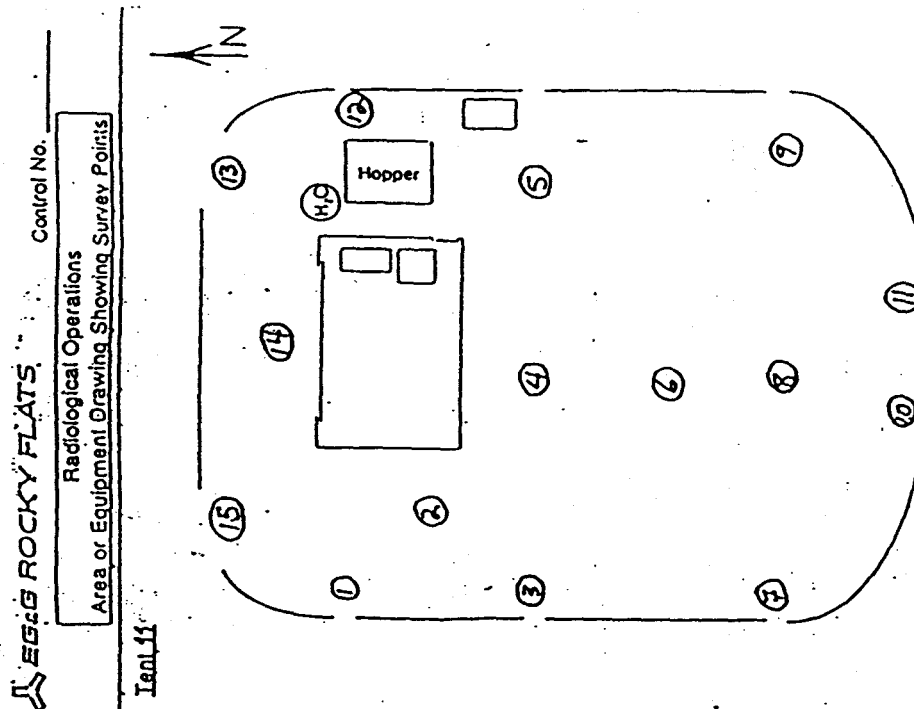
307

PAGE 2 OF 2

# RADIOLOGICAL CONTAMINATION SURVEY FORM

SURVEY RESULTS (DPM/100 CM<sup>2</sup>)

## SKETCH

[illegible]

Ans = 2.12.95

308



# INFORMATION ONLY

## RADIOLOGICAL CONTAMINATION SURVEY FORM

PAGE 1 OF 2

LOG NUMBER:	
FOR: PWRE	PRL
RWP	OTHER Routine
BUILDING/LOCATION: 904 Pad	ROOM: Feat 11
DATE: 2-19-98	TIME: 0900
ITEM DESCRIPTION: Weekly Surveys	
COMMENTS:	
PERFORMED BY (PRINT NAME): J. Hawkins	
DATE: 2-19-98	
RGT SIGNATURE	

### REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR: EBER. EBER. EBER. EBER.  
MODEL: S.A.C.-4 S.A.C.-4 S.A.C.-4 S.A.C.-4  
SERIAL #: 1050 959  
CAL DATE: 9-16-97 9-12-97  
CAL DUE DATE: 3-16-98 3-12-98

MFR: EBER. EBER. EBER. EBER.  
MODEL: B.C.4 B.C.4 B.C.4 B.C.4  
SERIAL #: Bc8770 Bc838  
CAL DATE: 1-7-98 1-6-98  
CAL DUE DATE: 7-7-98 7-6-98

### TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR: N.E. TECH  
MODEL: ELECTRA  
SERIAL #:  
CAL DATE:  
CAL DUE DATE:  
BACKGROUND:  
EFFICIENCY:  
MDA:

REVIEWED BY: T. Hysber  
RO SUPERVISION PRINT NAME  
RO SUPERVISION SIGNATURE  
DATE: 2/23/98

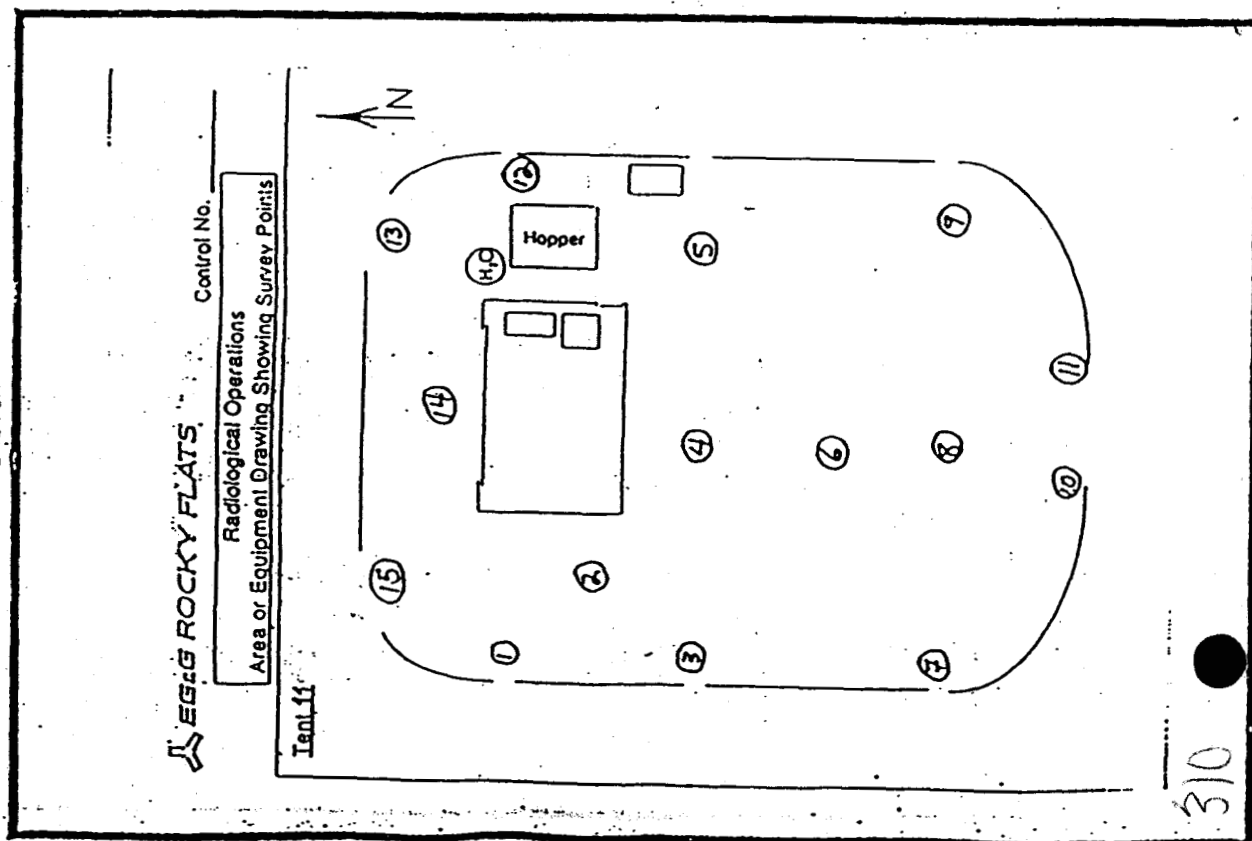
MDA = CF X (2.71 + 4.65) ☒ BACKGROUND (CPM)

309

# RADIOLOGICAL CONTAMINATION SURVEY FORM

SURVEY RESULTS (DPM/100 CM<sup>2</sup>)

## SKETCH

[illegible]

# INFORMATION ONLY

## RADIOLOGICAL CONTAMINATION SURVEY FORM

PAGE 1 OF 2

LOG NUMBER: _____	
FOR: _____ P/WRE _____ PRL _____	
_____ RWP _____ OTHER <u>Routine</u>	
BUILDING/LOCATION: <u>904 PAD</u>	ROOM: <u>tent 11</u>
DATE: <u>02-26-98</u>	TIME: <u>10:00</u>
ITEM DESCRIPTION: <u>weekly</u>	
COMMENTS: _____	
PERFORMED BY (PRINT NAME): <u>M. M. 02</u>	
RCT SIGNATURE _____	DATE <u>2-26-98</u>

### REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR: \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_

MODEL: \_\_\_\_\_ S.A.C. - 4 \_\_\_\_\_ S.A.C. - 4 \_\_\_\_\_ S.A.C. - 4 \_\_\_\_\_

SERIAL #: 797 959 \_\_\_\_\_

CAL DATE: 10-8-97 9-12-98 \_\_\_\_\_

CAL DUE DATE: 4-8-98 3-12-98 \_\_\_\_\_

MFR: \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_

MODEL: \_\_\_\_\_ B.C. 4 \_\_\_\_\_ B.C. 4 \_\_\_\_\_ B.C. 4 \_\_\_\_\_

SERIAL #: 136770 136938 \_\_\_\_\_

CAL DATE: 1-7-98 1-6-98 \_\_\_\_\_

CAL DUE DATE: 7-7-98 7-6-98 \_\_\_\_\_

### TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR: \_\_\_\_\_ N.E. TECH \_\_\_\_\_

MODEL: \_\_\_\_\_ ELECTRA \_\_\_\_\_

SERIAL #: \_\_\_\_\_

CAL DATE: \_\_\_\_\_

CAL DUE DATE: \_\_\_\_\_

BACKGROUND: \_\_\_\_\_

EFFICIENCY: \_\_\_\_\_

MDA: \_\_\_\_\_

REVIEWED BY: \_\_\_\_\_

RO SUPERVISION PRINT NAME

Thompson

13/4/98

RO SUPERVISION SIGNATURE

DATE

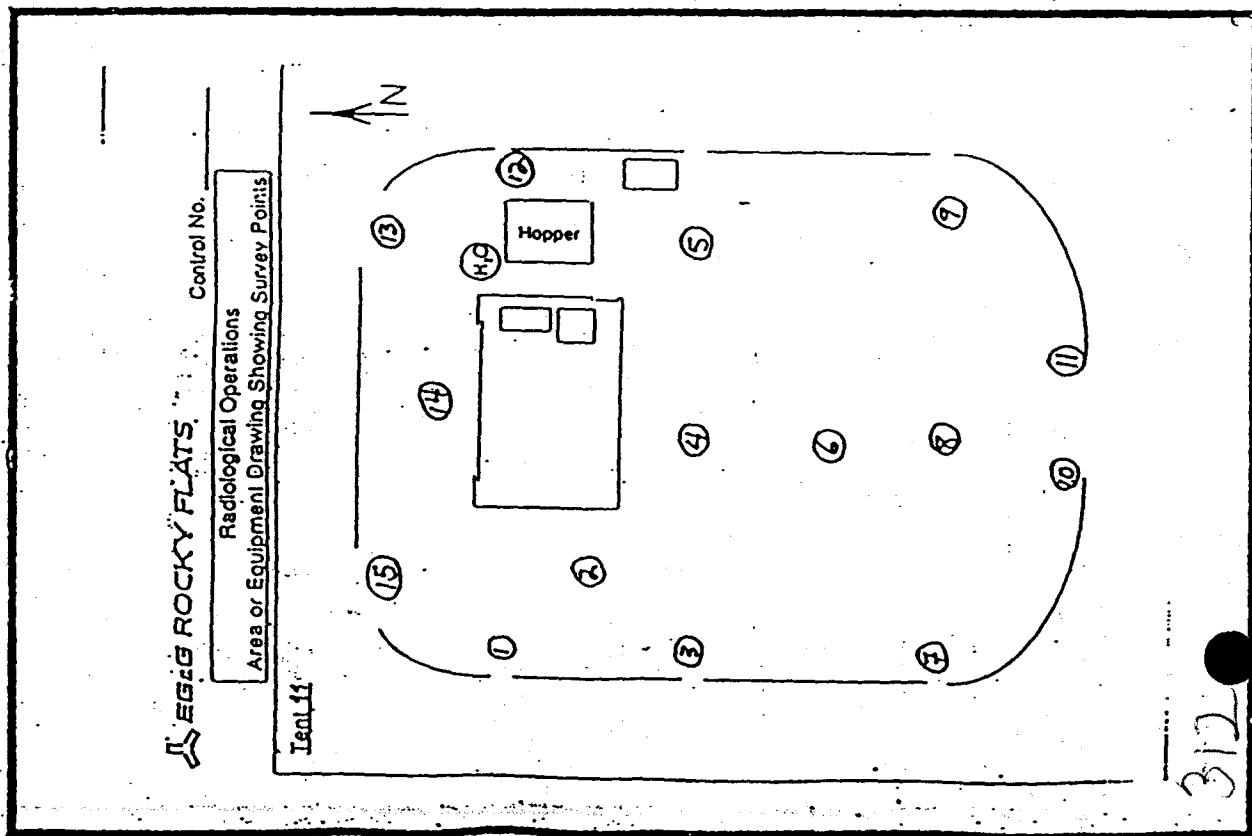
MDA = CF X [2.71 + 4.65] ☒ BACKGROUND (CPM)]

311

# RADIOLOGICAL CONTAMINATION SURVEY FORM

SURVEY RESULTS (DPM/100 CM<sup>2</sup>)

## SKETCH

[illegible]

INFORMATION ONLY  
RADIOLOGICAL CONTAMINATION SURVEY FORM

PAGE 1 OF 2

LOG NUMBER:

FOR: P/WRE PRL

RWP OTHER Routine

BUILDING/LOCATION:

904 Pad

ROOM:

tent 11

DATE: 3-11-98

TIME:

13:00

ITEM DESCRIPTION:

weekly

COMMENTS:

REMOVABLE CONTAMINATION  
SURVEY INSTRUMENT DATA

MFR: EBER. EBER. EBER.  
MODEL: S.A.C.-4 S.A.C.-4 S.A.C.-4  
SERIAL #: 797 767  
CAL DATE: 10-8-97 10-10-97  
CAL DUE DATE: 4-8-98 4-10-98

MFR: EBER. EBER. EBER.  
MODEL: B.C.4 B.C.4 B.C.4  
SERIAL #: BC 770 BC 838  
CAL DATE: 1-7-98 1-6-98  
CAL DUE DATE: 7-7-98 7-6-98

TOTAL CONTAMINATION  
SURVEY INSTRUMENT DATA

MFR: N.E. TECH  
MODEL: ELECTRA  
SERIAL #:  
CAL DATE:  
CAL DUE DATE:  
BACKGROUND:  
EFFICIENCY:  
MDA:

PERFORMED BY (PRINT NAME):

J. Hardin

RCT SIGNATURE

EMP#

DATE

REVIEWED BY:

K. Garland

RO SUPERVISION PRINT NAME

K. E. Garland 3-17-98

RO SUPERVISION SIGNATURE

DATE

MDA = CF X [2.71 + 4.65

✓ BACKGROUND (CPM)]

313

SURVEY RESULTS (DPM/100 CM<sup>2</sup>)

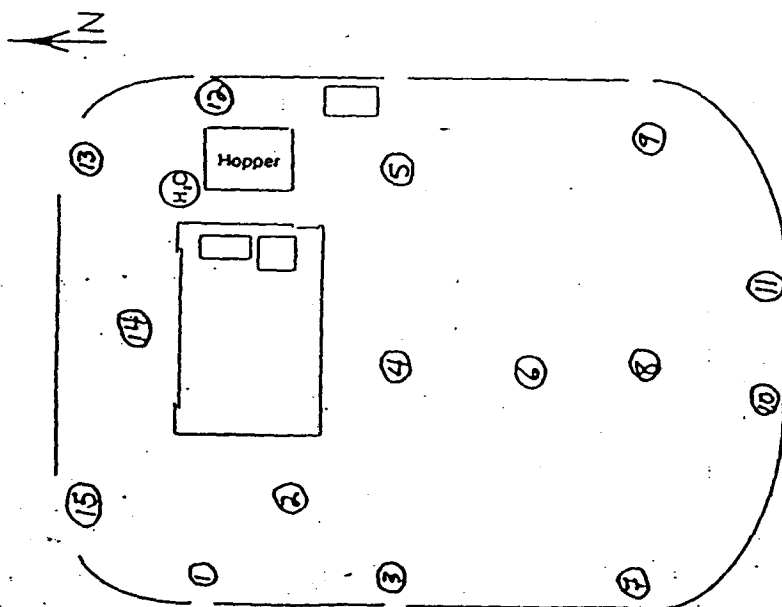
**EGG ROCKY FLATS:**

Control No.

## Radiological Operations

Area or Equipment Drawing Showing Survey Points

Test 11

[illegible]

85-012

814

# INFORMATION ONLY

## LOGICAL CONTAMINATION SURVEY FORM

PAGE 1 OF 2

LOG NUMBER: _____	
FOR: _____ P/WRE _____ PRL _____	
_____ RWP _____ OTHER <u>Routine</u>	
BUILDING/LOCATION: <u>904 Pad</u>	ROOM: <u>Tent 11</u>
DATE: <u>3-17-98</u>	TIME: <u>0900</u>
ITEM DESCRIPTION: <u>Weekly Contamination Control Point Survey</u>	
COMMENTS: _____	
PERFORMED BY (PRINT NAME): <u>Murphy</u> EMP# <u>1</u> DATE <u>3-17-98</u>	
RGT SIGNATURE _____	

### REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR: \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_  
 MODEL: \_\_\_\_\_ S.A.C. - 4 \_\_\_\_\_ S.A.C. - 4 \_\_\_\_\_ S.A.C. - 4 \_\_\_\_\_  
 SERIAL #: 797 767 \_\_\_\_\_  
 CAL DATE: 10-8-97 10-10-97 \_\_\_\_\_  
 CAL DUE DATE: 4-8-98 4-10-98 \_\_\_\_\_

MFR: \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_  
 MODEL: \_\_\_\_\_ B.C. 4 \_\_\_\_\_ B.C. 4 \_\_\_\_\_ B.C. 4 \_\_\_\_\_  
 SERIAL #: Bc770 Bc838 \_\_\_\_\_  
 CAL DATE: 1-7-98 1-6-98 \_\_\_\_\_  
 CAL DUE DATE: 7-7-98 7-6-98 \_\_\_\_\_

### TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR: \_\_\_\_\_ N.E. TECH \_\_\_\_\_  
 MODEL: \_\_\_\_\_ ELECTRA \_\_\_\_\_  
 SERIAL #: \_\_\_\_\_  
 CAL DATE: \_\_\_\_\_  
 CAL DUE DATE: \_\_\_\_\_  
 BACKGROUND: \_\_\_\_\_  
 EFFICIENCY: \_\_\_\_\_  
 MDA: \_\_\_\_\_

REVIEWED BY: K. G. Adams RO SUPERVISION PRINT NAME  
K. E. Adams 18 3/17/98 DATE  
 MDA = CF X [2.71 + 4.65] ☒ BACKGROUND (CPM)]

315

SURVEY RESULTS (DPM/100 CM<sup>2</sup>)

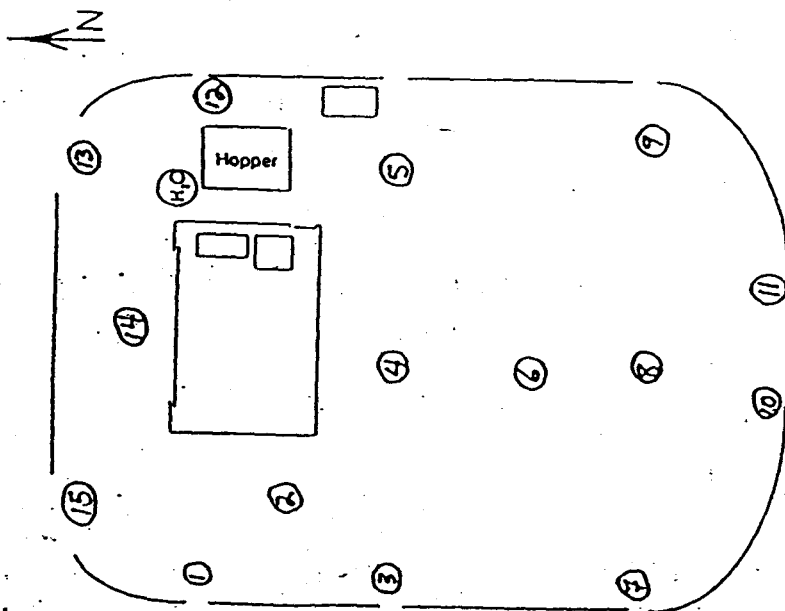
EGG ROCKY FLATS.

Control No.

## Radiological Operations

**Area or Equipment Drawing Showing Survey Points**

Ten 11

[illegible]



# **INFORMATION ONLY** RADIOLOGICAL CONTAMINATION SURVEY FORM

PAGE 1 OF 2

LOG NUMBER:	
FOR: P/WRE _____ PRL _____	OTHER: <u>Routine</u>
BUILDING/LOCATION: <u>904 PAD</u>	ROOM: <u>tent 11</u>
DATE: <u>3-26-98</u>	TIME: <u>0830</u>
ITEM DESCRIPTION: <u>weekly</u>	
COMMENTS:	
PERFORMED BY (PRINT NAME): <u>H. B. Kins</u>	
RCT SIGNATURE	DATE: <u>3-26-98</u>

## REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR: \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_  
 MODEL: S.A.C.-4 S.A.C.-4 S.A.C.-4 S.A.C.-4  
 SERIAL #: 797 767  
 CAL DATE: 10-8-97 10-10-97  
 CAL DUE DATE: 4-8-98 4-10-98

MFR: \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_  
 MODEL: B.C.4 B.C.4 B.C.4 B.C.4  
 SERIAL #: Bc770 Bc838  
 CAL DATE: 1-7-98 1-6-98  
 CAL DUE DATE: 7-7-98 7-6-98

## TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR: \_\_\_\_\_ N.E. TECH \_\_\_\_\_  
 MODEL: ELECTRA \_\_\_\_\_  
 SERIAL #: \_\_\_\_\_  
 CAL DATE: \_\_\_\_\_  
 CAL DUE DATE: \_\_\_\_\_  
 BACKGROUND: \_\_\_\_\_  
 EFFICIENCY: \_\_\_\_\_  
 MDA: \_\_\_\_\_

REVIEWED BY: K. Garland RO SUPERVISION PRINT NAME

RO SUPERVISION SIGNATURE [Signature] DATE 4-1-98

MDA = CF X (2.71 + 4.65) ☒ BACKGROUND (CPM)

317

SURVEY RESULTS (DPM/100 CM<sup>2</sup>)

3

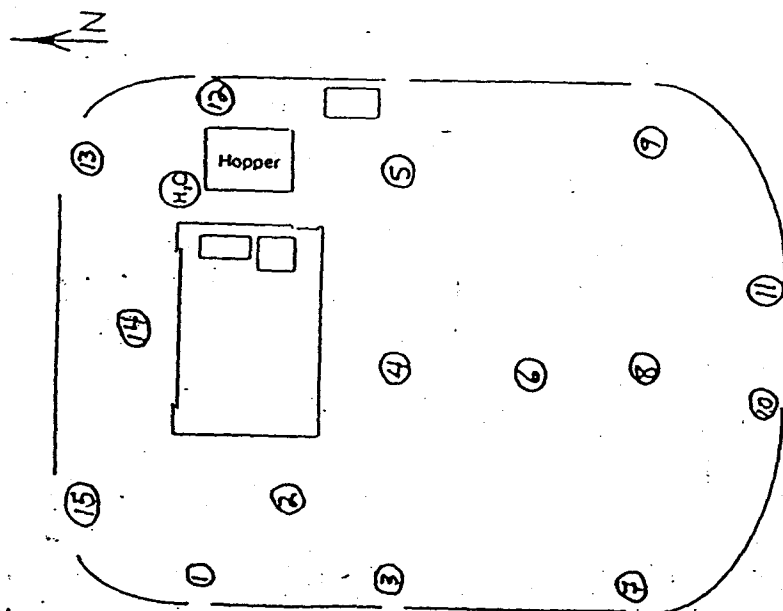
**EGG ROCKY FLATS**

Control No.

## Radiological Operations

**Area or Equipment Drawing Showing Survey Points**

Item 11

[illegible]

328 326-88

37

# RADIOLOGICAL CONTAMINATION SURVEY FORM

PAGE 1 OF 2

LOG NUMBER: _____	
FOR: _____ PWRE _____ PRL _____	OTHER <u>Routine</u>
BUILDING/LOCATION: <u>904 Pad</u>	ROOM: <u>Tent 11</u>
DATE: <u>4-1-98</u>	TIME: <u>0830</u>
ITEM DESCRIPTION: <u>Weekly Control Point Survey</u>	
COMMENTS: _____	
PERFORMED BY (PRINT NAME): <u>[Signature]</u> EMP# <u>1</u> DATE <u>4-1-98</u>	
RCT SIGNATURES: _____	

## REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR: _____	EBER. _____	EBER. _____	EBER. _____
MODEL: _____	S.A.C. - 4 _____	S.A.C. - 4 _____	S.A.C. - 4 _____
SERIAL #: _____	<u>797</u>	<u>767</u>	_____
CAL DATE: _____	<u>10-8-97</u>	<u>10-10-97</u>	_____
CAL DUE DATE: _____	<u>4-8-98</u>	<u>4-10-98</u>	_____

MFR: _____	EBER. _____	EBER. _____	EBER. _____
MODEL: _____	B.C. 4 _____	B.C. 4 _____	B.C. 4 _____
SERIAL #: _____	<u>66770</u>	<u>8338</u>	_____
CAL DATE: _____	<u>1-7-98</u>	<u>1-6-98</u>	_____
CAL DUE DATE: _____	<u>7-7-98</u>	<u>7-6-98</u>	_____

## TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR: _____	N.E. TECH _____
MODEL: _____	ELECTRA _____
SERIAL #: _____	_____
CAL DATE: _____	_____
CAL DUE DATE: _____	_____
BACKGROUND: _____	_____
EFFICIENCY: _____	_____
MDA: _____	_____

REVIEWED BY: K. Cornland RO SUPERVISION PRINT NAME

[Signature] RO SUPERVISION SIGNATURE DATE 4/1/98

MDA = CF X [2.71 + 4.65] ☒ BACKGROUND (CPM)]

ES&B ROCKY FLATS

Control No. \_\_\_\_\_

Radiological Operations  
Area or Equipment Drawing Showing Survey Points

Jan 11

15 13 12 11 10 9 8 7 6 5 4 3 2 1

Hopper

H.C.

Sketch

320

[illegible]

# RADIOLOGICAL CONTAMINATION SURVEY FORM INFORMATION ONLY

PAGE 1 OF 2

LOG NUMBER:	
FOR: <u>PVRE</u> <u>PRL</u>	
<u>RWP</u> <u>X</u> <u>OTHER</u> <u>Routine</u>	
BUILDING/LOCATION: <u>904 PAD</u>	ROOM: <u>Fest 11</u>
DATE: <u>4-9-98</u>	TIME: <u>10:30</u>
ITEM DESCRIPTION: <u>weekly</u>	
COMMENTS:	
PERFORMED BY (PRINT NAME): <u>Hackins</u>	
RCT SIGNATURE <u>Hackins</u>	DATE <u>4-9-98</u>

## REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	<u>824</u>	<u>1767</u>	
CAL DATE:	<u>3-24-98</u>	<u>10-10-97</u>	
CAL DUE DATE:	<u>7-24-98</u>	<u>4-10-98</u>	

MFR:	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	<u>136770</u>	<u>136838</u>	
CAL DATE:	<u>1-7-98</u>	<u>1-6-98</u>	
CAL DUE DATE:	<u>7-7-98</u>	<u>7-6-98</u>	

## TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH	
MODEL:	ELECTRA	
SERIAL #:		
CAL DATE:		
CAL DUE DATE:		
BACKGROUND:		
EFFICIENCY:		
MDA:		

REVIEWED BY: K. Garland RO SUPERVISION PRINT NAME

Ali E. Garland DATE 5/5/98

MDA = CF X [2.71 + 4.65] ☒ BACKGROUND (CPM)

SURVEY RESULTS (DPM/100 CM<sup>2</sup>)

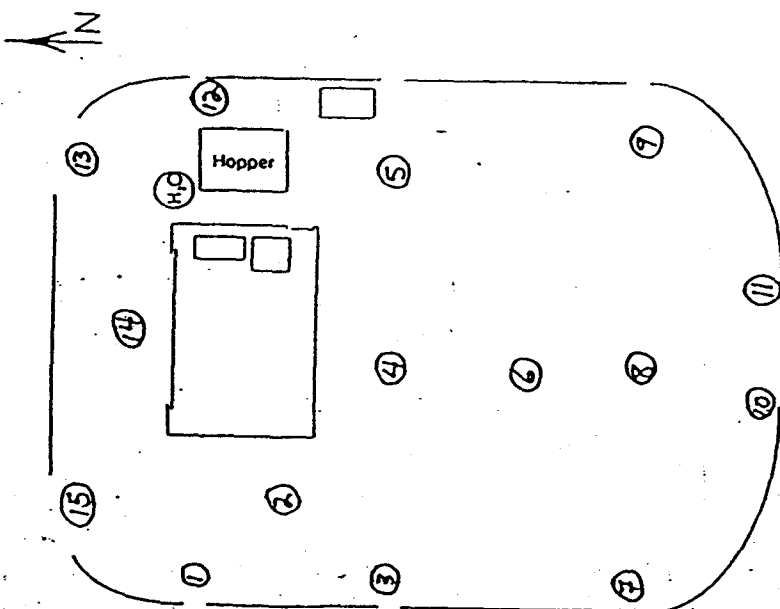
# EGG ROCKY FLATS.

Control No.

## Radiological Operations

### Area or Equipment Drawing Showing Survey Points

Pen 11

[illegible]

77119-38

32

# RADIOLOGICAL CONTAMINATION SURVEY FORM INFORMATION ONLY

PAGE 1 OF 2

LOG NUMBER:	
FOR: <u>PWRE</u> <u>PRL</u>	
<u>RWP</u> <u>OTHER</u> <u>Routine</u>	
BUILDING/LOCATION: <u>904 PAD</u>	ROOM: <u>7ent 11</u>
DATE: <u>4-15-98</u>	TIME: <u>12:15</u>
ITEM DESCRIPTION: <u>weekly</u>	
COMMENTS:	
PERFORMED BY (PRINT NAME): <u>H. L. [Redacted]</u>	
RCT SIGNATURE	DATE <u>14-15-98</u>

## REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	<u>1795</u>	<u>824</u>	
CAL DATE:	<u>3-13-98</u>	<u>3-24-98</u>	
CAL DUE DATE:	<u>3-13-98</u>	<u>3-24-98</u>	

MFR:	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	<u>BC 770</u>	<u>BC 838</u>	
CAL DATE:	<u>1-7-98</u>	<u>1-6-98</u>	
CAL DUE DATE:	<u>7-7-98</u>	<u>7-6-98</u>	

## TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH
MODEL:	ELECTRA
SERIAL #:	
CAL DATE:	
CAL DUE DATE:	
BACKGROUND:	
EFFICIENCY:	
MDA:	

REVIEWED BY: H. Connelley RO SUPERVISION PRINT NAME

DATE 1574/98

RO SUPERVISION SIGNATURE [Signature]

MDA = CF X [2.71 + 4.65] ☒ BACKGROUND (CPM)]

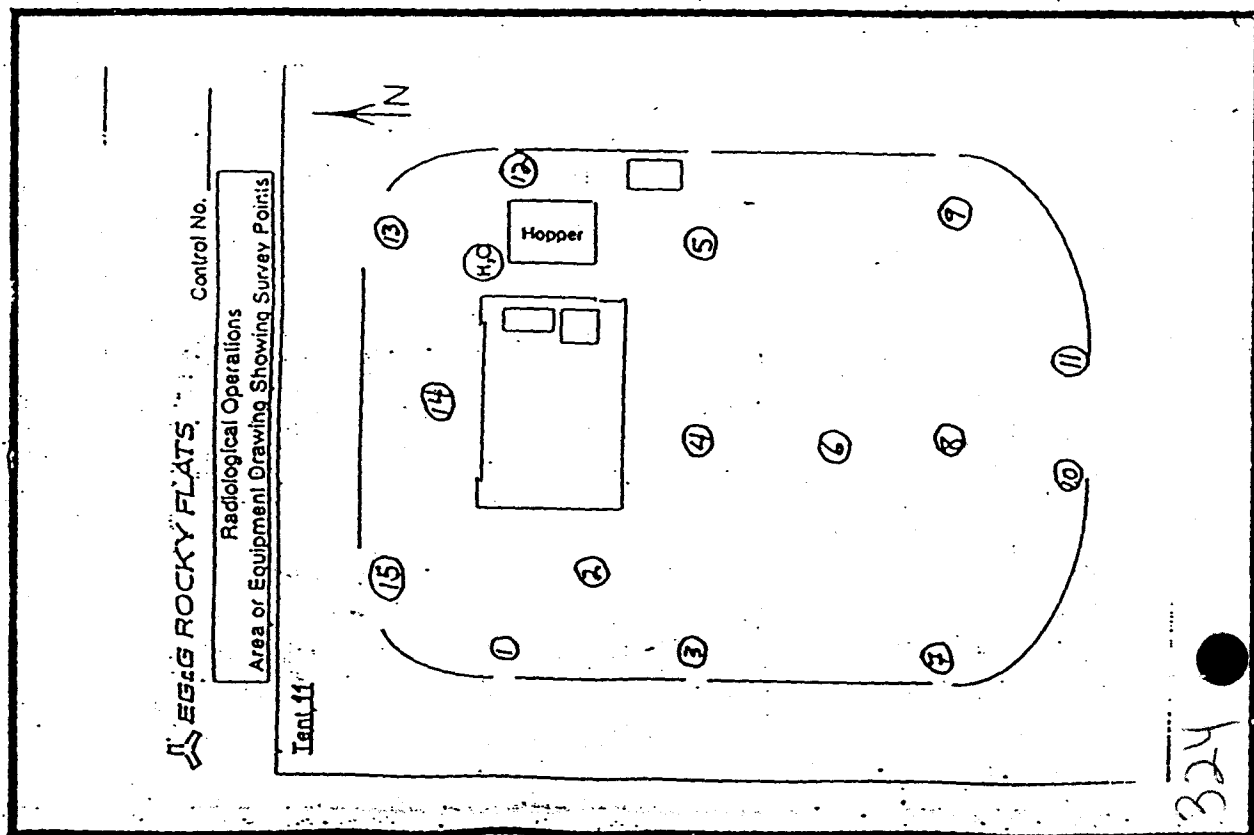
323



# RADIOLOGICAL CONTAMINATION SURVEY FORM

SURVEY RESULTS (DPM/100 CM<sup>2</sup>)

## SKETCH

[illegible]



# RADIOLOGICAL CONTAMINATION SURVEY FORM

PAGE 1 OF 2

LOG NUMBER: \_\_\_\_\_

FOR: \_\_\_\_\_ P/WRE \_\_\_\_\_ PRL \_\_\_\_\_

\_\_\_\_\_ RWP \_\_\_\_\_ OTHER Routine

BUILDING/LOCATION: 904 Pad ROOM: Tent 11

DATE: 4-23-98 TIME: 0730

ITEM DESCRIPTION: Weekly Control Point Survey

COMMENTS: \_\_\_\_\_

PERFORMED BY (PRINT NAME): M. S. 2

[Signature] DATE 14-23-98

RCT SIGNATURE

REVIEWED BY: K. Conklin

RO SUPERVISION PRINT NAME

[Signature] DATE 15/20/98

RO SUPERVISION SIGNATURE

## INFORMATION ONLY REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR: \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_  
MODEL: \_\_\_\_\_ S.A.C. - 4 \_\_\_\_\_ S.A.C. - 4 \_\_\_\_\_ S.A.C. - 4 \_\_\_\_\_  
SERIAL #: 795 824 824 824  
CAL DATE: 3-13-98 3-24-98 3-24-98 3-24-98  
CAL DUE DATE: 9-14-98 9-24-98 9-24-98 9-24-98

MFR: \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_  
MODEL: \_\_\_\_\_ B.C. 4 \_\_\_\_\_ B.C. 4 \_\_\_\_\_ B.C. 4 \_\_\_\_\_  
SERIAL #: BC770 BC838 BC838 BC838  
CAL DATE: 1-7-98 1-6-98 1-6-98 1-6-98  
CAL DUE DATE: 7-7-98 7-6-98 7-6-98 7-6-98

## TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR: \_\_\_\_\_ N.E. TECH \_\_\_\_\_ N.E. TECH \_\_\_\_\_  
MODEL: \_\_\_\_\_ ELECTRA \_\_\_\_\_ ELECTRA \_\_\_\_\_  
SERIAL #: \_\_\_\_\_  
CAL DATE: \_\_\_\_\_  
CAL DUE DATE: \_\_\_\_\_  
BACKGROUND: \_\_\_\_\_  
EFFICIENCY: \_\_\_\_\_  
MDA: \_\_\_\_\_

MDA = CF X [2.71 + 4.65] ☒ BACKGROUND (CPM)

325

EGIG ROCKY FLATS Control No. \_\_\_\_\_

Radiological Operations  
Area or Equipment Drawing Showing Survey Points

Tent 11

The diagram shows a rectangular tent labeled 'Tent 11'. Inside the tent, there are two rectangular structures: a larger one on the left and a smaller one on the right, both labeled 'Hopper'. Fifteen numbered survey points are marked around the tent: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, and 15. A north arrow is located at the bottom right of the diagram.

326

[illegible]

# RADIOLOGICAL CONTAMINATION SURVEY FORM

PAGE 1 OF 2

## INFORMATION ONLY SURVEY INSTRUMENT DATA

LOG NUMBER: _____	
FOR: _____ PAVRE _____ PRL _____	OTHER <u>Positive</u>
BUILDING/LOCATION: <u>204 Pad</u>	ROOM: <u>Tent 11</u>
DATE: <u>4-28-98</u>	TIME: <u>1030</u>
ITEM DESCRIPTION: <u>Weekly Control Point Survey</u>	
COMMENTS: _____	
PERFORMED BY (PRINT NAME): <u>W. J. [Redacted]</u>	
RCT SIGNATURE: <u>[Signature]</u>	DATE: <u>4-28-98</u>
EMP#	

MFR: \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_  
 MODEL: \_\_\_\_\_ S.A.C. - 4 \_\_\_\_\_ S.A.C. - 4 \_\_\_\_\_ S.A.C. - 4 \_\_\_\_\_  
 SERIAL #: 795 824  
 CAL DATE: 3-13-98 3-24-98  
 CAL DUE DATE: 9-13-98 9-24-98

MFR: \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_  
 MODEL: \_\_\_\_\_ B.C. 4 \_\_\_\_\_ B.C. 4 \_\_\_\_\_ B.C. 4 \_\_\_\_\_  
 SERIAL #: BC770 BC838  
 CAL DATE: 1-7-98 1-6-98  
 CAL DUE DATE: 7-7-98 7-6-98

## TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR: \_\_\_\_\_ N.E. TECH \_\_\_\_\_  
 MODEL: \_\_\_\_\_ ELECTRA \_\_\_\_\_  
 SERIAL #: \_\_\_\_\_  
 CAL DATE: \_\_\_\_\_  
 CAL DUE DATE: \_\_\_\_\_  
 BACKGROUND: \_\_\_\_\_  
 EFFICIENCY: \_\_\_\_\_  
 MDA: \_\_\_\_\_

MDA = CF X (2.71 + 4.65) ☒ BACKGROUND (CPM)

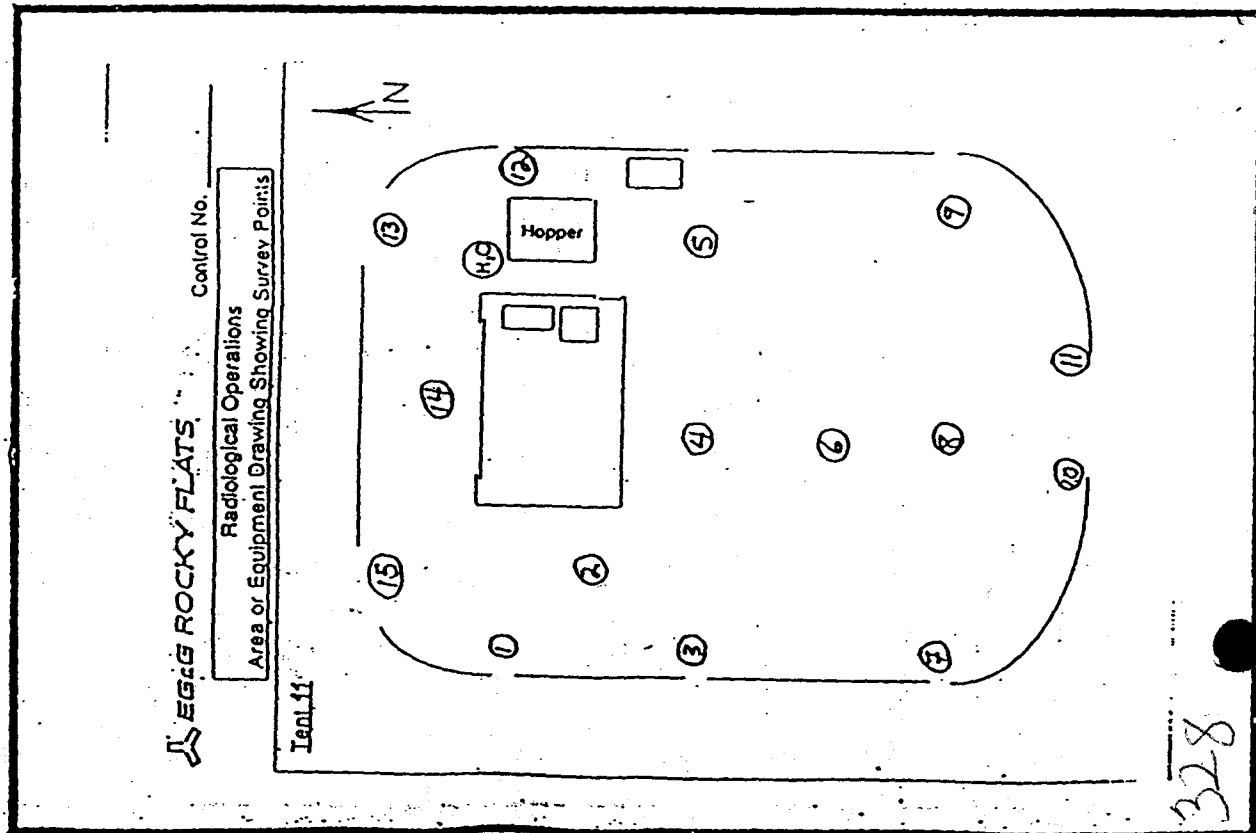
REVIEWED BY: K. Carlson RO SUPERVISION PRINT NAME  
[Signature] RO SUPERVISION SIGNATURE  
5/19/98 DATE

327

## RADIOLOGICAL CONTAMINATION SURVEY FORM

SURVEY RESULTS (DPM/100 CM<sup>2</sup>)

## SKETCH

[illegible]

# INFORMA RADIOLGICAL CONTAMINATION SURVEY FORM

LOG NUMBER: _____	
FOR: _____ P/WRE _____ PRL _____	OTHER <u>Routine</u>
BUILDING/LOCATION: <u>904 Pad</u>	ROOM: <u>Tent 11</u>
DATE: <u>5-7-98</u>	TIME: <u>1030</u>
ITEM DESCRIPTION: <u>Weekly Control Point Survey</u>	
COMMENTS: _____	
PERFORMED BY (PRINT NAME): <u>[Redacted]</u>	
DATE: <u>5-7-98</u>	
RCT SIGNATURE: <u>[Signature]</u>	

## REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	<u>795</u>	<u>824</u>	
CAL DATE:	<u>3-13-98</u>	<u>3-24-98</u>	
CAL DUE DATE:	<u>9-13-98</u>	<u>9-24-98</u>	
MFR:	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	<u>Bc770</u>	<u>Bc838</u>	
CAL DATE:	<u>1-7-98</u>	<u>1-6-98</u>	
CAL DUE DATE:	<u>7-7-98</u>	<u>7-6-98</u>	

## TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH		
MODEL:	ELECTRA		
SERIAL #:			
CAL DATE:			
CAL DUE DATE:			
BACKGROUND:			
EFFICIENCY:			
MDA:			

REVIEWED BY: [Signature]

RO SUPERVISION PRINT NAME: \_\_\_\_\_

DATE: 5/20/98

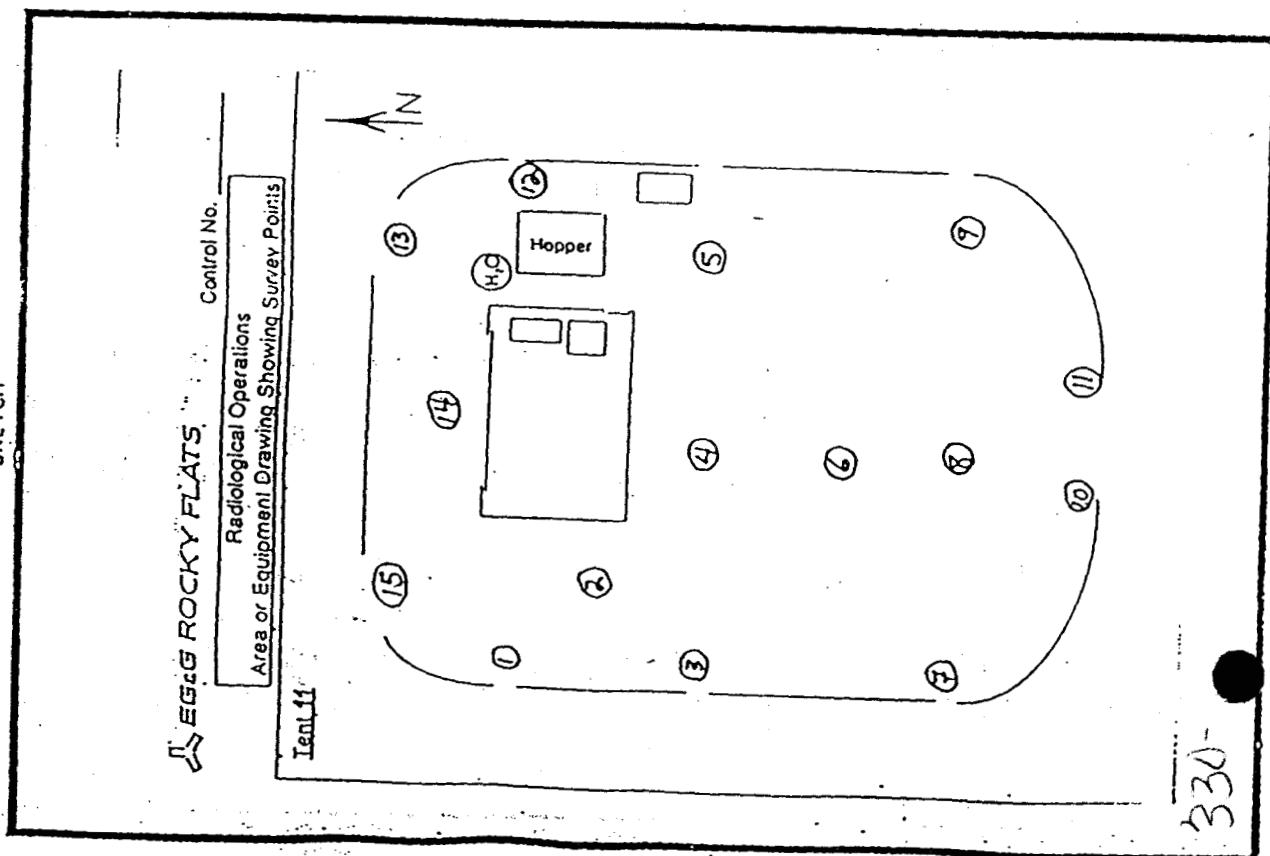
MDA = CF X (2.71 + 4.65) ☒ BACKGROUND (CPM))

PAGE 2 OF 2

LOG NUMBER:

SURVEY RESULTS (DPM/100 CM<sup>2</sup>)

## SKETCH

[illegible]

# RADIOLOGICAL CONTAMINATION SURVEY FORM

PAGE 1 OF 2

LOG NUMBER:	
FOR: PWRE _____ PRL _____	
RWP _____ OTHER <u>Routine</u>	
BUILDING/LOCATION: <u>904 Pad</u>	ROOM: <u>Levt #11</u>
DATE: <u>5-13-98</u>	TIME: <u>0930</u>
ITEM DESCRIPTION: <u>Weekly Control Point Survey</u>	
COMMENTS:	
PERFORMED BY (PRINT NAME): <u>M.E. VAGHAN</u>	
RCT SIGNATURE: <u>[Signature]</u>	DATE: <u>5-13-98</u>
EMP#	

## REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	<u>799</u>	<u>824</u>	
CAL DATE:	<u>3-13-98</u>	<u>3-24-98</u>	
CAL DUE DATE:	<u>9-13-98</u>	<u>9-24-98</u>	

MFR:	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	<u>720</u>	<u>838</u>	
CAL DATE:	<u>1-2-98</u>	<u>1-4-98</u>	
CAL DUE DATE:	<u>7-2-98</u>	<u>7-4-98</u>	

## TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH
MODEL:	ELECTRA
SERIAL #:	
CAL DATE:	
CAL DUE DATE:	
BACKGROUND:	
EFFICIENCY:	
MDA:	

REVIEWED BY: J. Stewart-Bell RO SUPERVISION PRINT NAME

331 [Signature] RO SUPERVISION SIGNATURE

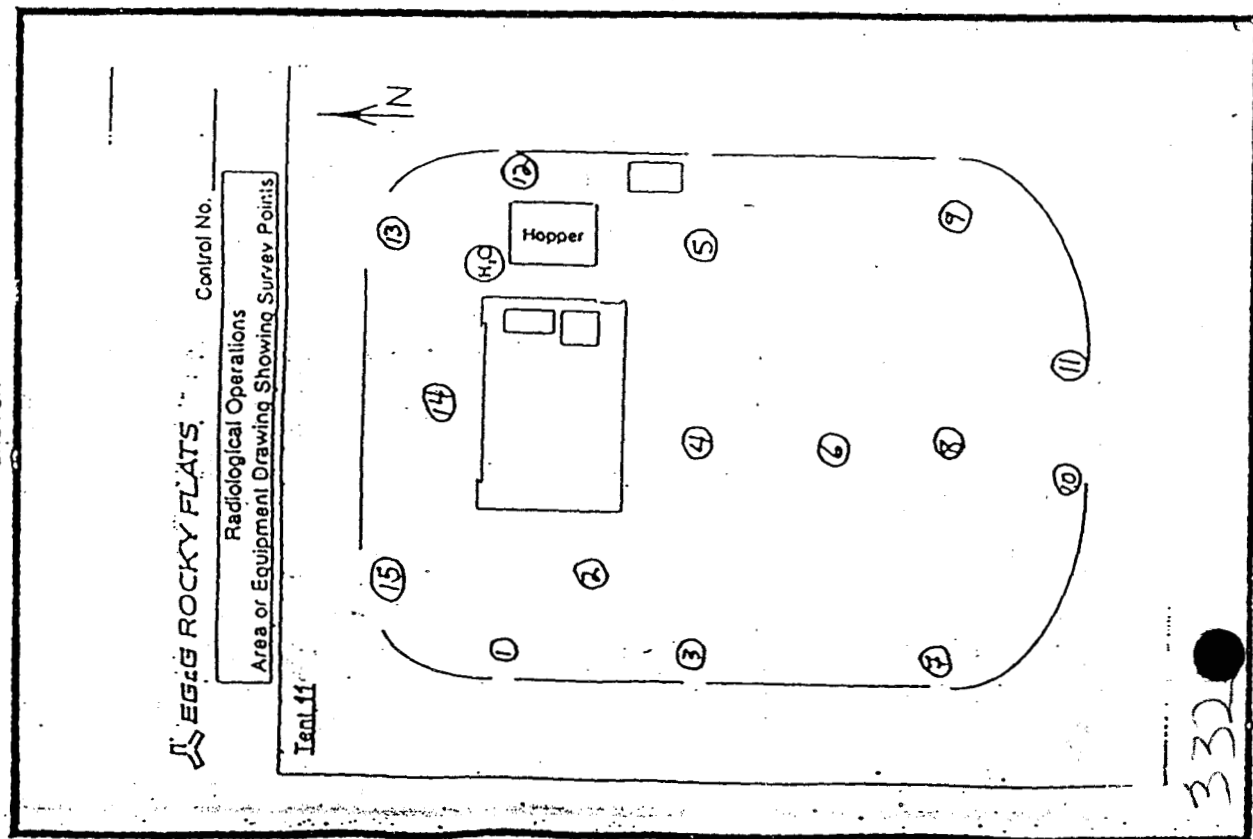
DATE: 16-10-98

MDA = CF X [2.71 + 4.65] ☒ BACKGROUND (CPM)]

PAGE 2 OF 2

### SURVEY RESULTS (DPM/100 CM<sup>2</sup>)

## SKETCH

[illegible]



# RADIOLOGICAL CONTAMINATION SURVEY FORM

PAGE 1 OF 2

LOG NUMBER: _____	
FOR: _____ P/WRE _____ PRL _____	
RWP <input checked="" type="checkbox"/> OTHER <u>Routine</u>	
BUILDING/LOCATION: <u>904 Pad</u>	ROOM: <u>Tent 11</u>
DATE: <u>5-21-98</u>	TIME: <u>0730</u>
ITEM DESCRIPTION: <u>Weekly Control Point Survey</u>	
COMMENTS: _____	
PERFORMED BY (PRINT NAME): <u>J. Hall</u>	
RCT SIGNATURE: <u>[Signature]</u>	DATE: <u>5-21-98</u>

## REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR: _____	EBER. _____	EBER. _____	EBER. _____
MODEL: _____	S.A.C. - 4 _____	S.A.C. - 4 _____	S.A.C. - 4 _____
SERIAL #: _____	<u>795</u>	<u>824</u>	
CAL DATE: _____	<u>3-13-98</u>	<u>3-24-98</u>	
CAL DUE DATE: _____	<u>9-13-98</u>	<u>9-24-98</u>	

MFR: _____	EBER. _____	EBER. _____	EBER. _____
MODEL: _____	B.C. 4 _____	B.C. 4 _____	B.C. 4 _____
SERIAL #: _____	<u>Bc770</u>	<u>Bc838</u>	
CAL DATE: _____	<u>1-7-98</u>	<u>1-6-98</u>	
CAL DUE DATE: _____	<u>7-7-98</u>	<u>7-6-98</u>	

## TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR: _____	N.E. TECH _____
MODEL: _____	ELECTRA _____
SERIAL #: _____	
CAL DATE: _____	
CAL DUE DATE: _____	
BACKGROUND: _____	
EFFICIENCY: _____	
MDA: _____	

REVIEWED BY: J. Stewart-Bell RO SUPERVISION PRINT NAME

[Signature] RO SUPERVISION SIGNATURE

DATE: 16.10.98

MDA = CF X (2.71 + 4.65) ☒ BACKGROUND (CPM)

[illegible]

# RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER: _____	
FOR: _____ PWRE _____ PRL _____	OTHER: <u>Routine</u>
BUILDING/LOCATION: <u>904 Pad</u>	ROOM: <u>Tent 11</u>
DATE: <u>5-26-98</u>	TIME: <u>1230</u>
ITEM DESCRIPTION: <u>Weekly Control Point Survey</u>	
COMMENTS: _____	
PERFORMED BY (PRINT NAME): <u>W. H. Hines</u> DATE: <u>5-26-98</u>	
RCT SIGNATURE: _____	EMP# _____

## REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR: _____	EBER. _____	EBER. _____	EBER. _____
MODEL: _____	S.A.C. - 4 _____	S.A.C. - 4 _____	S.A.C. - 4 _____
SERIAL #: _____	<u>795</u>	<u>824</u>	
CAL DATE: _____	<u>3-13-98</u>	<u>3-24-98</u>	
CAL DUE DATE: _____	<u>9-13-98</u>	<u>9-24-98</u>	

MFR: _____	EBER. _____	EBER. _____	EBER. _____
MODEL: _____	B.C. 4 _____	B.C. 4 _____	B.C. 4 _____
SERIAL #: _____	<u>B.C. 270</u>	<u>B.C. 838</u>	
CAL DATE: _____	<u>1-7-98</u>	<u>1-6-98</u>	
CAL DUE DATE: _____	<u>7-7-98</u>	<u>7-6-98</u>	

## TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR: _____	N.E. TECH _____
MODEL: _____	ELECTRA _____
SERIAL #: _____	
CAL DATE: _____	
CAL DUE DATE: _____	
BACKGROUND: _____	
EFFICIENCY: _____	
MDA: _____	

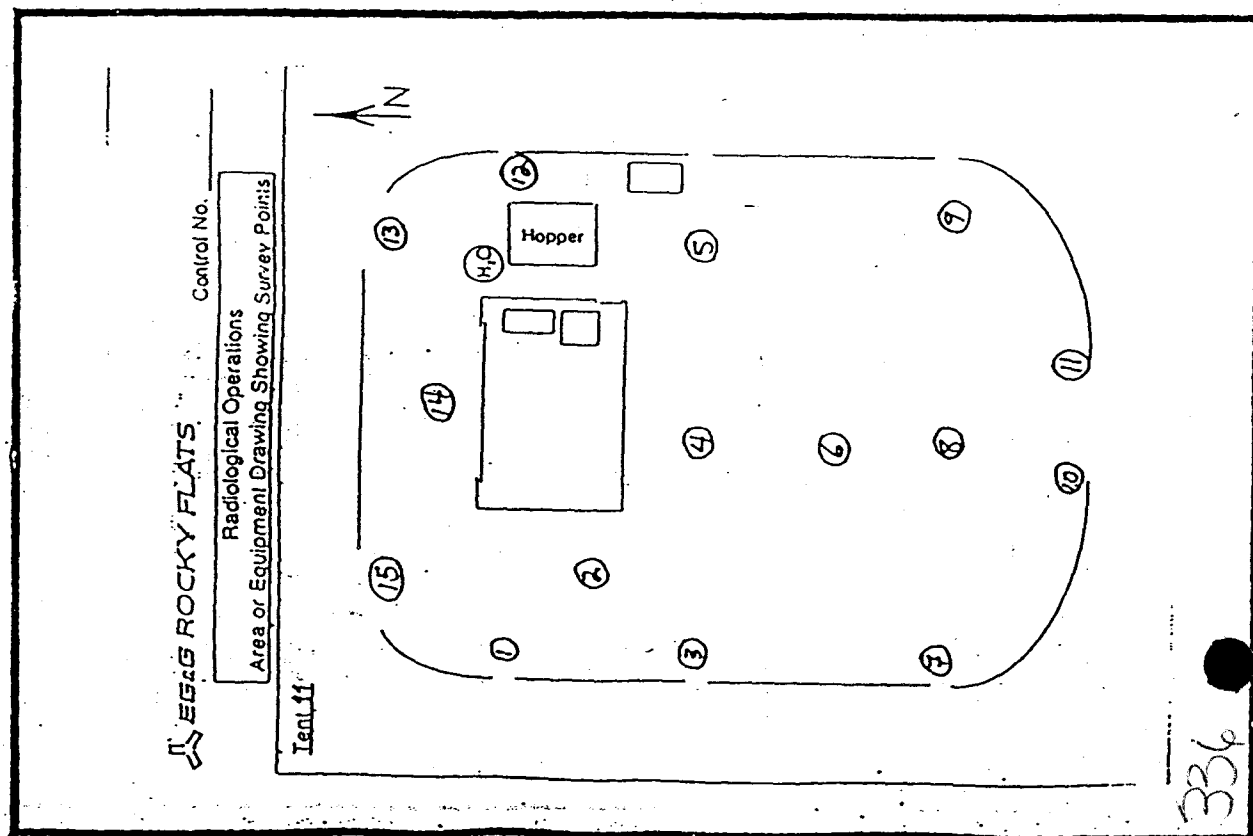
REVIEWED BY: J. Stewart-Bell RO SUPERVISION PRINT NAME

J. Stewart-Bell 16.10.98 DATE

MDA = CF X [2.71 + 4.65] ☒ BACKGROUND (CPM)]

SURVEY RESULTS (DPM/100 CM<sup>2</sup>)

## SKETCH

[illegible]

# RADIOLOGICAL CONTAMINATION SURVEY FORM

PAGE 1 OF 2

LOG NUMBER: _____	
FOR: _____ P/WRE _____ PRL _____	
RWP _____ OTHER <input checked="" type="checkbox"/> Routine	
BUILDING/LOCATION: 904 Pad	ROOM: Tent 11
DATE: 6-24-98	TIME: 0900
ITEM DESCRIPTION: Weekly Control Point Survey	
COMMENTS:	
PERFORMED BY (PRINT NAME): M. M. M. 16-24-98	
RCT SIGNATURE	EMP# DATE

## REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	795	824	
CAL DATE:	3-13-98	3-24-98	
CAL DUE DATE:	9-13-98	9-24-98	
MFR:	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	8270	8288	
CAL DATE:	1-7-98	1-6-98	
CAL DUE DATE:	7-7-98	7-6-98	

## TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH
MODEL:	ELECTRA
SERIAL #:	
CAL DATE:	
CAL DUE DATE:	
BACKGROUND:	
EFFICIENCY:	
MDA:	

REVIEWED BY: R. M. M. RO SUPERVISION PRINT NAME

337

MDA = CF X [2.71 + 4.65] ☒ BACKGROUND (CPM)]

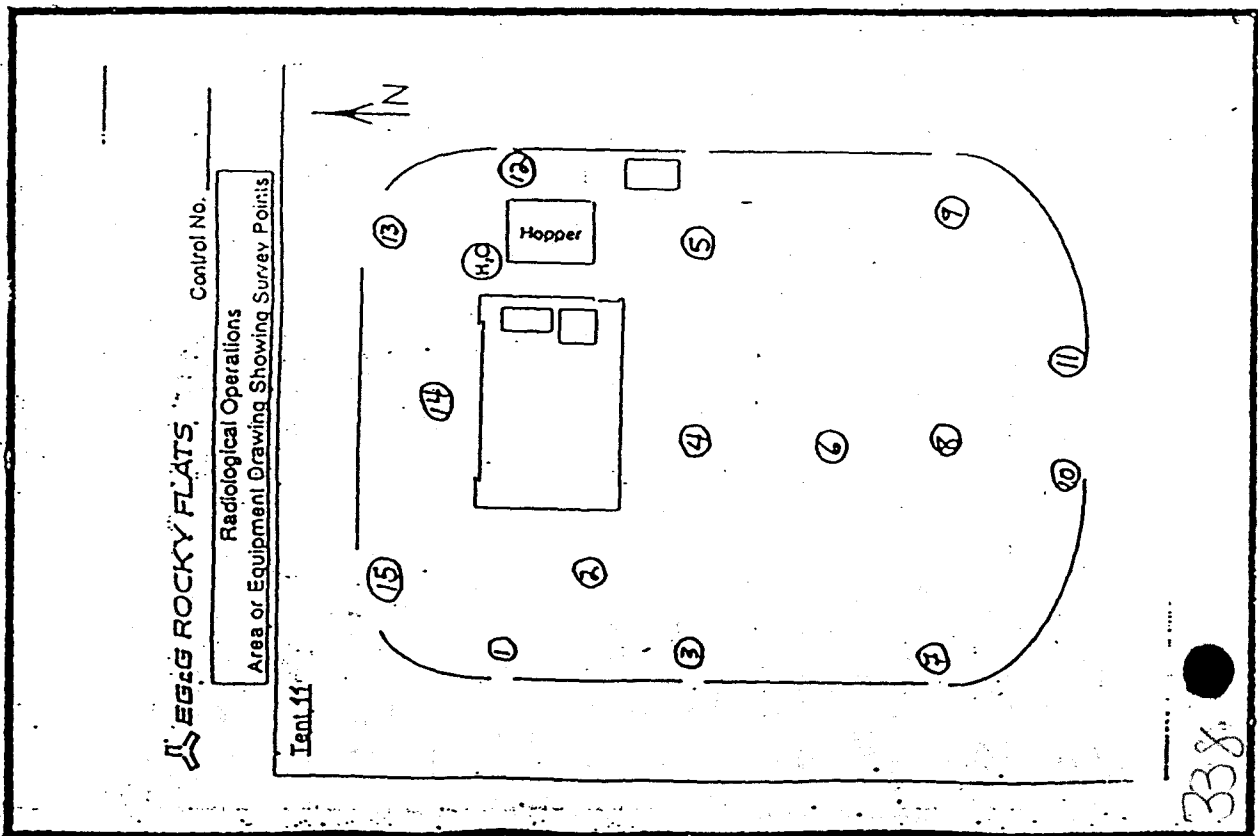
RO SUPERVISION SIGNATURE: [Signature] DATE: 1-7-98

RADIOLOGICAL CONTAMINATION SURVEY FORM

PAGE 2 OF 2

SURVEY RESULTS (DPM/100 CM<sup>2</sup>)

# INDEX

[illegible]

38

## ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## INSTRUMENT DATA

Mfg. <u>Eberline</u>	Mfg. <u>Eberline</u>	Mfg. <u>Eberline</u>
Model <u>SAC-4</u>	Model <u>SAC-4</u>	Model <u>SAC-4</u>
Serial # <u>795</u>	Serial # <u>824</u>	Serial # <u>795</u>
Cal Due <u>9-13-98</u>	Cal Due <u>9-24-98</u>	Cal Due <u>7-1-98</u>
Bkg. <u>0.2</u>	Bkg. <u>0.2</u>	Bkg. <u>0.2</u>
Efficiency <u>33%</u>	Efficiency <u>33%</u>	Efficiency <u>33%</u>
MDA <u>&lt;20</u>	MDA <u>&lt;20</u>	MDA <u>&lt;20</u>

Mfg. <u>Eberline</u>	Mfg. <u>Eberline</u>	Mfg. <u>Eberline</u>
Model <u>Bc-4</u>	Model <u>Bc-4</u>	Model <u>Bc-4</u>
Serial # <u>Bc270</u>	Serial # <u>Bc838</u>	Serial # <u>Bc270</u>
Cal Due <u>7-7-98</u>	Cal Due <u>7-6-98</u>	Cal Due <u>7-1-98</u>
Bkg. <u>25%</u>	Bkg. <u>25%</u>	Bkg. <u>25%</u>
Efficiency <u>25%</u>	Efficiency <u>25%</u>	Efficiency <u>25%</u>
MDA <u>&lt;200</u>	MDA <u>&lt;200</u>	MDA <u>&lt;200</u>

Survey Type: Contamination SurveyBuilding: 904 PadLocation: Tent IIPurpose: Weekly Control Point SurveyRWP #: an 7-1-98

RWP #:

Date: 7-1-98Time: 0800RCT: Munoz

Print name

Signature

Signature

Emp. #

RCT: an 7-1-98

Print name

Signature

Emp. #

PRL # an 7-1-98 Routine

Comments:

See attached survey form for survey results.

## SURVEY RESULTS

## INFORMATION ONLY

an 7-1-98Date Reviewed: 7/20/98RS Supervision: F. S. Sullivan

Print Name

Signature

Emp. #

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

*Calu 2-1-98*

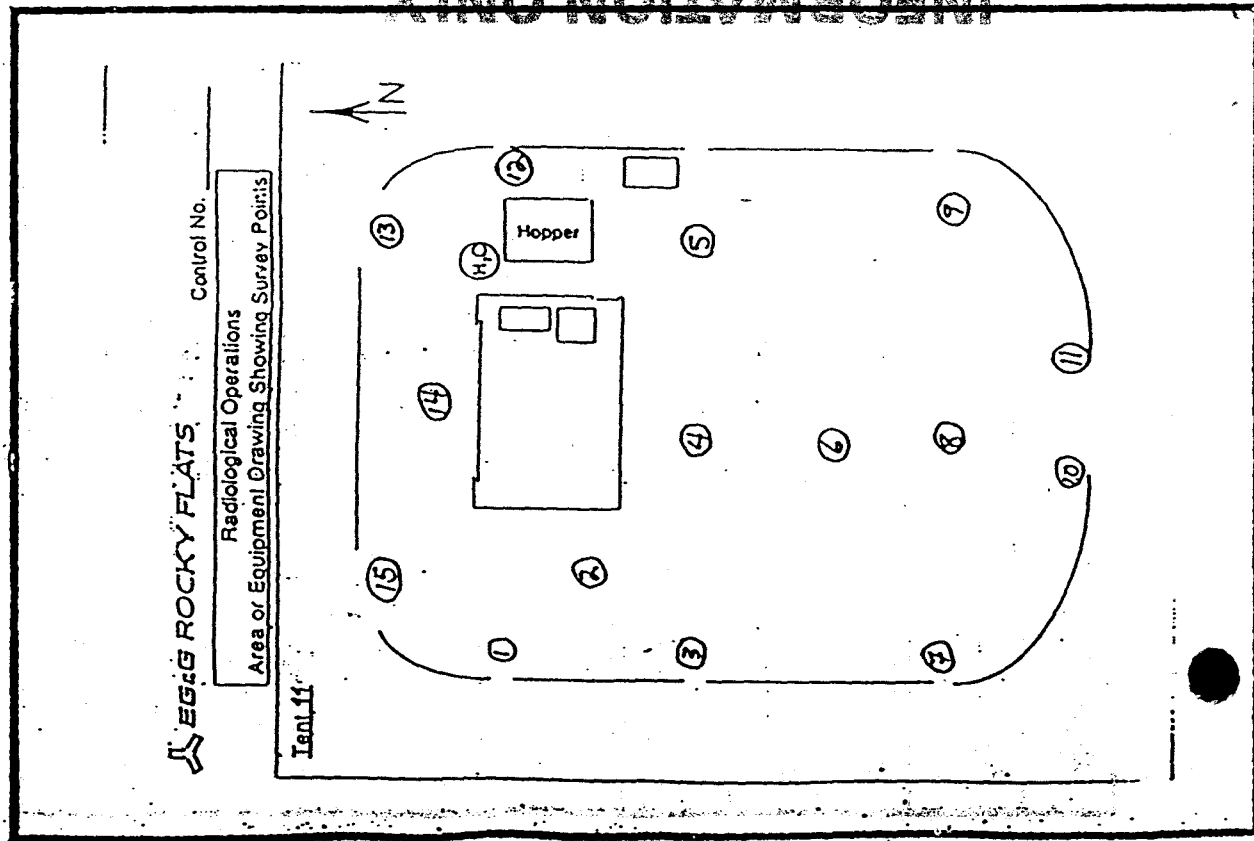
340



# RADIOLOGICAL CONTAMINATION SURVEY FORM

SURVEY RESULTS (DPM/100 CM<sup>2</sup>)

## SKETCH

[illegible]

# RADIOLOGICAL CONTAMINATION SURVEY FORM

PAGE 1 OF 2

## REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

LOG NUMBER:	
FOR: P/WRE _____ PRL _____	RWP _____ OTHER _____
BUILDING/LOCATION:	ROOM:
DATE:	TIME:
ITEM DESCRIPTION:	
COMMENTS:	
PERFORMED BY (PRINT NAME):	
RCT SIGNATURE	EMP# DATE

MFR: \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_  
 MODEL: \_\_\_\_\_ S.A.C. - 4 \_\_\_\_\_ S.A.C. - 4 \_\_\_\_\_ S.A.C. - 4 \_\_\_\_\_  
 SERIAL #: \_\_\_\_\_  
 CAL DATE: \_\_\_\_\_  
 CAL DUE DATE: \_\_\_\_\_

MFR: \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_ EBER. \_\_\_\_\_  
 MODEL: \_\_\_\_\_ B.C. 4 \_\_\_\_\_ B.C. 4 \_\_\_\_\_ B.C. 4 \_\_\_\_\_  
 SERIAL #: \_\_\_\_\_  
 CAL DATE: \_\_\_\_\_  
 CAL DUE DATE: \_\_\_\_\_

## TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR: \_\_\_\_\_ N.E. TECH \_\_\_\_\_  
 MODEL: \_\_\_\_\_ ELECTRA \_\_\_\_\_  
 SERIAL #: \_\_\_\_\_  
 CAL DATE: \_\_\_\_\_  
 CAL DUE DATE: \_\_\_\_\_  
 BACKGROUND: \_\_\_\_\_  
 EFFICIENCY: \_\_\_\_\_  
 MDA: \_\_\_\_\_

REVIEWED BY:

RO SUPERVISION PRINT NAME

$$MDA = CF \times [2.7] + 4.65 \quad \checkmark \quad \text{BACKGROUND (CPM)}$$

RO SUPERVISION SIGNATURE

DATE

## ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## INSTRUMENT DATA

Mfg. <u>Eberline</u>	Mfg. <u>Eberline</u>	Mfg. <u>Eberline</u>
Model <u>SAC-4</u>	Model <u>SAC-4</u>	Model <u>SAC-4</u>
Serial # <u>795</u>	Serial # <u>824</u>	Serial # <u>824</u>
Cal Due <u>9-13-98</u>	Cal Due <u>9-13-98</u>	Cal Due <u>9-13-98</u>
Bkg. <u>0.1</u>	Bkg. <u>0.1</u>	Bkg. <u>0.1</u>
Efficiency <u>33%</u>	Efficiency <u>33%</u>	Efficiency <u>33%</u>
MDA <u>20 dpm</u>	MDA <u>20 dpm</u>	MDA <u>20 dpm</u>
Mfg. <u>Eberline</u>	Mfg. <u>Eberline</u>	Mfg. <u>Eberline</u>
Model <u>BC-4</u>	Model <u>BC-4</u>	Model <u>BC-4</u>
Serial # <u>BC 704</u>	Serial # <u>BC 702</u>	Serial # <u>BC 702</u>
Cal Due <u>12-11-98</u>	Cal Due <u>12-15-98</u>	Cal Due <u>12-15-98</u>
Bkg. <u>36</u>	Bkg. <u>38</u>	Bkg. <u>38</u>
Efficiency <u>25%</u>	Efficiency <u>25%</u>	Efficiency <u>25%</u>
MDA <u>200 dpm</u>	MDA <u>200 dpm</u>	MDA <u>200 dpm</u>

Survey Type: Contamination SurveyBuilding: 904 PadLocation: TENT 11Purpose: Weekly Control Point SurveyRWP #: on 7-8-98Date: 7-8-98 Time: 0800RCT: Winn Winn  
Print name SignatureRCT: Harkins Harkins  
Print name SignaturePRL #: on 7-8-98Comments: Weekly Surveys include Source Lock, <sup>Tent 7</sup> Locker Room, Break Room, 904 Pad, Tent 8, Tent 9, Tent 10, Tent 11

## SURVEY RESULTS

\* See attached sheets for weekly survey results

INFORMATION ONLY

Date Reviewed: 7/23/98RS Supervision: R. Sawyer

Print Name

Signature

Emp. #

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

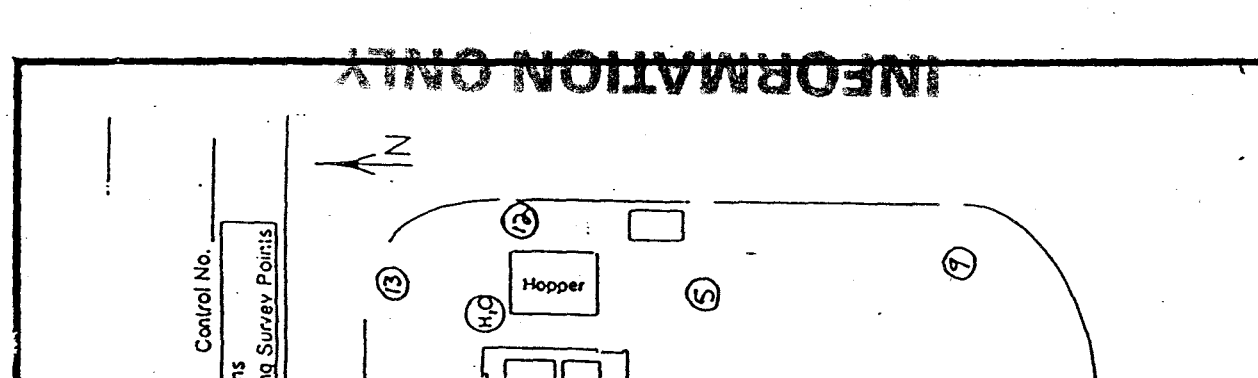
**RADIOLOGICAL SAFETY**

Drawing Showing Survey Points

③

DATE RECEIVED

DATE RECEIVED



ES&B ROCKY FLATS

Control No. \_\_\_\_\_

Radiological Operations  
Area or Equipment Drawing Showing Survey Points

Jan 11

A schematic diagram of a site, likely Rocky Flats, enclosed in a rectangular boundary. Inside the boundary, there is a large rectangular building with two small square windows. To the right of the building is a smaller rectangular structure labeled 'Hopper'. A north arrow points towards the top right of the diagram. Fifteen numbered survey points are marked with circles: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, and 15. Points 1 through 11 are distributed around the perimeter of the site. Points 12, 13, 14, and 15 are clustered near the building and hopper. Point 12 is directly above the hopper. Point 13 is to the left of the hopper. Point 14 is to the left of the building. Point 15 is at the bottom left corner of the site.

INFORMATION ONLY

# RADIOLOGICAL CONTAMINATION SURVEY FORM

PAGE 1 OF 2

LOG NUMBER:	
FOR: P/WRE _____ PRL _____	
RWP _____ OTHER _____	
BUILDING/LOCATION:	ROOM:
DATE:	TIME:
ITEM DESCRIPTION:	
COMMENTS:	
PERFORMED BY (PRINT NAME):	
RCT SIGNATURE	EMP# / DATE

## REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR: EBER. EBER. EBER.  
 MODEL: S.A.C.-4 S.A.C.-4 S.A.C.-4  
 SERIAL #: S.A.C.-4 S.A.C.-4 S.A.C.-4  
 CAL DATE: S.A.C.-4 S.A.C.-4 S.A.C.-4  
 CAL DUE DATE: S.A.C.-4 S.A.C.-4 S.A.C.-4

MFR: EBER. EBER. EBER.  
 MODEL: B.C. 4 B.C. 4 B.C. 4  
 SERIAL #: B.C. 4 B.C. 4 B.C. 4  
 CAL DATE: B.C. 4 B.C. 4 B.C. 4  
 CAL DUE DATE: B.C. 4 B.C. 4 B.C. 4

## TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR: N.E. TECH N.E. TECH N.E. TECH  
 MODEL: ELECTRA ELECTRA ELECTRA  
 SERIAL #: ELECTRA ELECTRA ELECTRA  
 CAL DATE: ELECTRA ELECTRA ELECTRA  
 CAL DUE DATE: ELECTRA ELECTRA ELECTRA  
 BACKGROUND: ELECTRA ELECTRA ELECTRA  
 EFFICIENCY: ELECTRA ELECTRA ELECTRA  
 MDA: ELECTRA ELECTRA ELECTRA

REVIEWED BY: \_\_\_\_\_ RO SUPERVISION PRINT NAME  
 \_\_\_\_\_ RO SUPERVISION SIGNATURE \_\_\_\_\_ DATE

$$MDA = CF \times [2.71 + 4.65 \sqrt{\text{BACKGROUND (CPM)}}]$$

3/1/98

## ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## INSTRUMENT DATA

Mfg. <u>Eberline</u>	Mfg. <u>Eberline</u>	Mfg. <u>Eberline</u>
Model <u>SAC 4</u>	Model <u>SAC 4</u>	Model <u>BC 4</u>
Serial # <u>295</u>	Serial # <u>424</u>	Serial # <u>704</u>
Cal Due <u>9-13-98</u>	Cal Due <u>9-24-98</u>	Cal Due <u>12-11-98</u>
Bkg. <u>0.0</u>	Bkg. <u>0.0</u>	Bkg. <u>35</u>
Efficiency <u>33%</u>	Efficiency <u>33%</u>	Efficiency <u>25%</u>
MDA <u>120</u>	MDA <u>120</u>	MDA <u>1200</u>
Mfg. <u>Eberline</u>	Mfg. <u>NEtec</u>	Mfg. <u></u>
Model <u>BC 4</u>	Model <u>Electra</u>	Model <u></u>
Serial # <u>702</u>	Serial # <u>1680</u>	Serial # <u>44</u>
Cal Due <u>12-15-98</u>	Cal Due <u>9-3-98</u>	Cal Due <u>7/6/98</u>
Bkg. <u>38</u>	Bkg. <u>2.0</u>	Bkg. <u>7/6/98</u>
Efficiency <u>25%</u>	Efficiency <u>2.243%</u>	Efficiency <u>7/6/98</u>
MDA <u>1200</u>	MDA <u>13455</u>	MDA <u></u>

Survey Type: ContaminationBuilding: 904Location: 904 PAD OFFICE LUTHER RM.Purpose: Weekly TENT IIRWP # JHDate: 7-16-98 Time: 1540RCT: L HANKINS J HAH  
Print name SignatureRCT: 1 1  
Print name Signature Emp. #PRE #: JH 7-16-98Comments: NONE

INFORMATION ONLY

## SURVEY RESULTS

See Following pages for survey results.

JH 7-16-98Date Reviewed: 8/5/98RS Supervision: R. Sawyer

Print Name

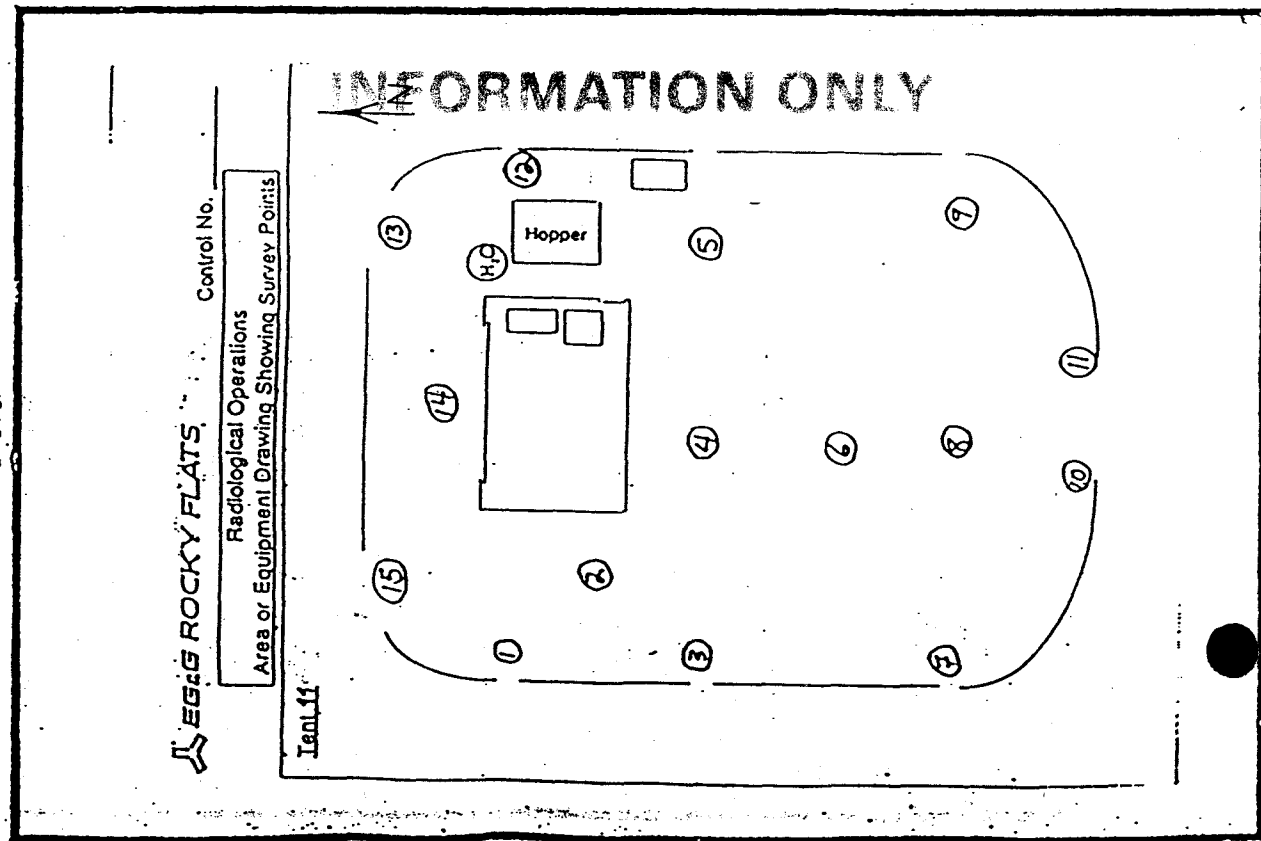
Signature

100-100000-100000



**SURVEY RESULTS (DPM/100 CM<sup>2</sup>)**

## SKETCH

[illegible]

# RADIOLOGICAL CONTAMINATION SURVEY FORM

PAGE 1 OF 2

LOG NUMBER:	
FOR: P/WRE PRL	
RWP OTHER	
BUILDING/LOCATION:	ROOM:
DATE:	TIME:
ITEM DESCRIPTION:	
COMMENTS:	
PERFORMED BY (PRINT NAME):	
RCT SIGNATURE	EMP# DATE

## REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR: EBER. EBER. EBER. EBER.  
 MODEL: S.A.C.-4 S.A.C.-4 S.A.C.-4 S.A.C.-4  
 SERIAL #: S.A.C.-4 S.A.C.-4 S.A.C.-4 S.A.C.-4  
 CAL DATE: S.A.C.-4 S.A.C.-4 S.A.C.-4 S.A.C.-4  
 CAL DUE DATE: S.A.C.-4 S.A.C.-4 S.A.C.-4 S.A.C.-4

MFR: EBER. EBER. EBER. EBER.  
 MODEL: B.C. 4 B.C. 4 B.C. 4 B.C. 4  
 SERIAL #: B.C. 4 B.C. 4 B.C. 4 B.C. 4  
 CAL DATE: B.C. 4 B.C. 4 B.C. 4 B.C. 4  
 CAL DUE DATE: B.C. 4 B.C. 4 B.C. 4 B.C. 4

## TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR: N.E. TECH N.E. TECH N.E. TECH N.E. TECH  
 MODEL: ELECTRA ELECTRA ELECTRA ELECTRA  
 SERIAL #: ELECTRA ELECTRA ELECTRA ELECTRA  
 CAL DATE: ELECTRA ELECTRA ELECTRA ELECTRA  
 CAL DUE DATE: ELECTRA ELECTRA ELECTRA ELECTRA  
 BACKGROUND: ELECTRA ELECTRA ELECTRA ELECTRA  
 EFFICIENCY: ELECTRA ELECTRA ELECTRA ELECTRA  
 MDA: ELECTRA ELECTRA ELECTRA ELECTRA

REVIEWED BY: RO SUPERVISION PRINT NAME  
 RO SUPERVISION SIGNATURE DATE

$$MDA = CF \times [2.71 + 4.65 \sqrt{BACKGROUND (CPM)}]$$

349

## ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## INSTRUMENT DATA

Mfg. <u>Eberline</u>	Mfg. <u>Eberline</u>	Mfg. <u><del>S</del></u>
Model <u>SAC-4</u>	Model <u>SAC-4</u>	Model <u><del>S</del></u>
Serial # <u>795</u>	Serial # <u>824</u>	Serial # <u><del>7</del></u>
Cal Due <u>9-13-98</u>	Cal Due <u>9-24-98</u>	Cal Due <u><del>7-22-98</del></u>
Bkg. <u>0.0</u>	Bkg. <u>0.0</u>	Bkg. <u><del>0.0</del></u>
Efficiency <u>33%</u>	Efficiency <u>33%</u>	Efficiency <u><del>33%</del></u>
MDA <u>200 d/m</u>	MDA <u>200 d/m</u>	MDA <u><del>200 d/m</del></u>
Mfg. <u>Eberline</u>	Mfg. <u>Eberline</u>	Mfg. <u><del>S</del></u>
Model <u>BC-4</u>	Model <u>BC-4</u>	Model <u><del>S</del></u>
Serial # <u>BC704</u>	Serial # <u>BC702</u>	Serial # <u><del>7</del></u>
Cal Due <u>12-11-98</u>	Cal Due <u>12-15-98</u>	Cal Due <u><del>7-22-98</del></u>
Bkg. <u>36</u>	Bkg. <u>38</u>	Bkg. <u><del>36</del></u>
Efficiency <u>25%</u>	Efficiency <u>25%</u>	Efficiency <u><del>25%</del></u>
MDA <u>200 d/m</u>	MDA <u>200 d/m</u>	MDA <u><del>200 d/m</del></u>

Survey Type: Contamination Survey  
 Building: 904 Pad  
 Location: 904 Pad T-7 T8-T9 T10 T11 Break  
 Purpose: Rosin Locker Room, Solvent Locker  
Weekly Control Point  
 RWP #: on 7-22-98

Date: 7-22-98 Time: 0800

RCT: Hankins J Hankins  
 Print name Signature

RCT: Munoz Munoz  
 Print name Signature

PRL #: on 7-22-98

Comments:

\* See attached survey forms for survey results

LENT II

## SURVEY RESULTS

INFORMATION ONLY

Date Reviewed: 8/5/98

RS Supervision:

Print Name

Signature

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

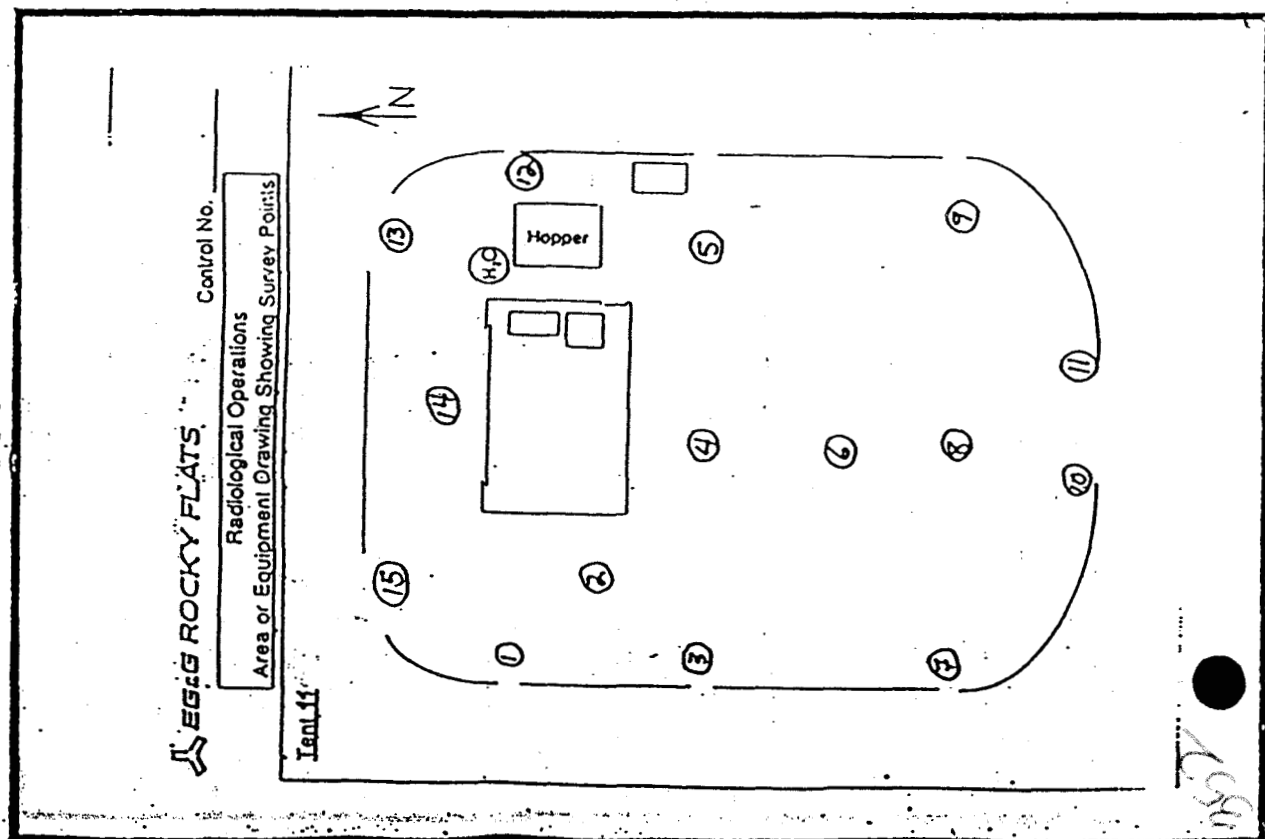
RADIOLOGICAL SAFETY

Drawing Showing Survey Points

*Alan 7-22-98*

SURVEY RESULTS (DPM/100 CM<sup>2</sup>)

## SKETCH



**INFORMATION ONLY**

[illegible]

# RADIOLOGICAL CONTAMINATION SURVEY FORM

PAGE 1 OF 2

## REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

LOG NUMBER:	
FOR: PWRE PRL	OTHER
BUILDING/LOCATION:	ROOM:
DATE:	TIME:
ITEM DESCRIPTION:	
COMMENTS:	
PERFORMED BY (PRINT NAME):	
RCT SIGNATURE	EMP# DATE

MFR: EBER. EBER. EBER. EBER.  
 MODEL: S.A.C. - 4 S.A.C. - 4 S.A.C. - 4 S.A.C. - 4  
 SERIAL #: S.A.C. - 4 S.A.C. - 4 S.A.C. - 4 S.A.C. - 4  
 CAL DATE: S.A.C. - 4 S.A.C. - 4 S.A.C. - 4 S.A.C. - 4  
 CAL DUE DATE: S.A.C. - 4 S.A.C. - 4 S.A.C. - 4 S.A.C. - 4

MFR: EBER. EBER. EBER. EBER.  
 MODEL: B.C. 4 B.C. 4 B.C. 4 B.C. 4  
 SERIAL #: B.C. 4 B.C. 4 B.C. 4 B.C. 4  
 CAL DATE: B.C. 4 B.C. 4 B.C. 4 B.C. 4  
 CAL DUE DATE: B.C. 4 B.C. 4 B.C. 4 B.C. 4

## TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR: N.E. TECH  
 MODEL: ELECTRA  
 SERIAL #: ELECTRA  
 CAL DATE: ELECTRA  
 CAL DUE DATE: ELECTRA  
 BACKGROUND: ELECTRA  
 EFFICIENCY: ELECTRA  
 MDA: ELECTRA

REVIEWED BY:

RO SUPERVISION PRINT NAME

MDA = CF X [2.71 + 4.65]  $\sqrt{\text{BACKGROUND (CPM)}}$

RO SUPERVISION SIGNATURE

DATE

## ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model SAC-4	Model SAC-4	Model SAC-4
Serial # 795	Serial # 824	Serial # 8204
Cal Due 9-13-98	Cal Due 9-24-98	Cal Due 12-11-98
Bkg. 0.0	Bkg. 0.0	Bkg. 38
Efficiency 33%	Efficiency 33%	Efficiency 25%
MDA 20 d/m	MDA 20 d/m	MDA 200 d/m

## Survey Type: CONTAMINATION

Building: 904 Pad  
 Location: T-7 Locker Room Break Room 904 Pad, T-8, T-9, T-11  
 Purpose: Source Locket Weekly Control Point Survey  
 TENT 11  
 RWP #: 7-30-98

Date: 7-30-98 Time: 0900

RCT: M Juoz / M Juoz  
 Print name Signature

RCT: / /  
 Print name Signature Emp. #

Mfg. EBERLINE	Mfg. NE. TECH	Mfg. NE. TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # BC702	Serial #	Serial #
Cal Due 12-15-98	Cal Due	Cal Due
Bkg. 38	Bkg.	Bkg.
Efficiency 25%	Efficiency	Efficiency
MDA 200 d/m	MDA	MDA

PRL #: 7-30-98

Comments: Survey results, for each survey, are located on attached sheets.

## SURVEY RESULTS

REMOVABLE		DIRECT		REMOVABLE		DIRECT	
ALPHA	BETA	ALPHA	BETA	ALPHA	BETA	ALPHA	BETA
1.							
2.							
3.							
4.							
5.							
6.							
7.							
8.							
9.							
10.							
11.							
12.							
13.							
14.							
15.							
16.							
17.							
18.							
19.							
20.							
21.							
22.							

INFORMATION ONLY

Date Reviewed: 8/24/98

RS Supervision:

Print Name

Signature

Emp. #

**ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE**

**RADIOLOGICAL SAFETY**

**Drawing Showing Survey Points**

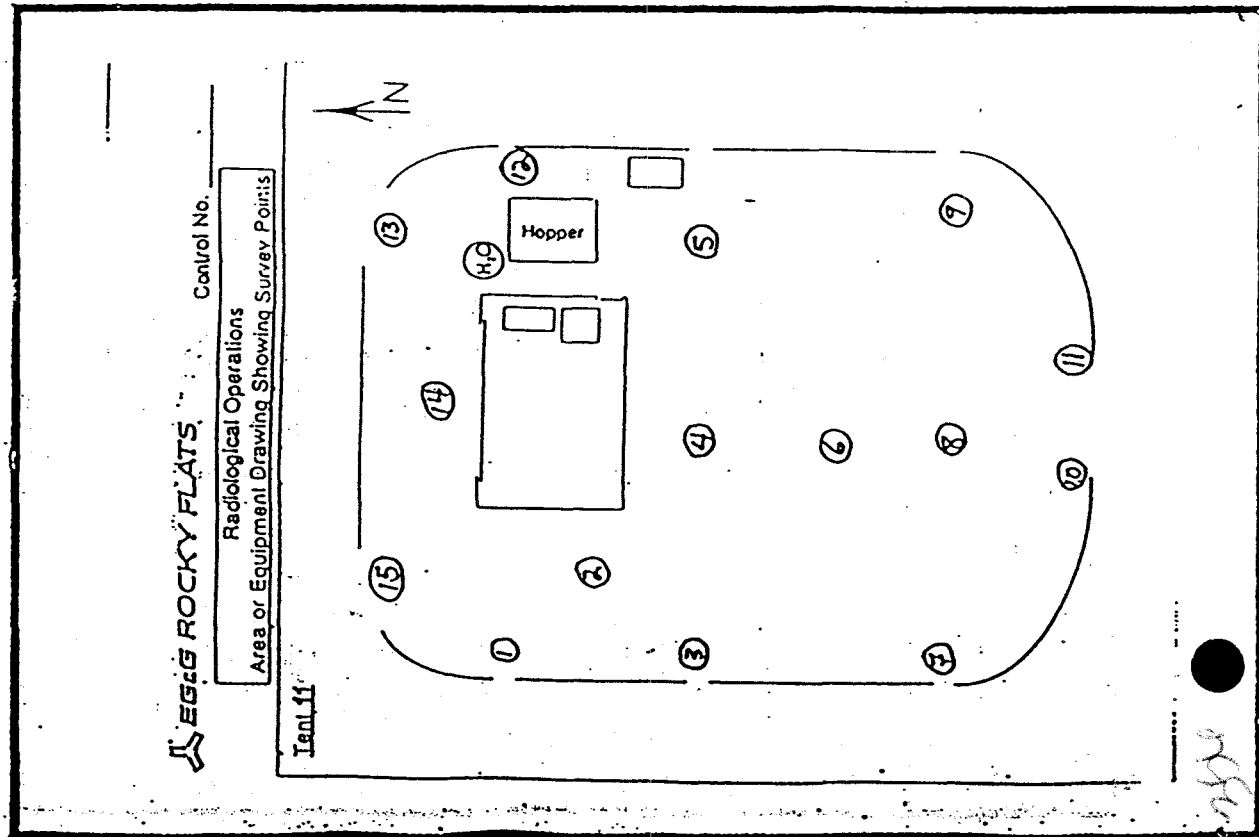
*Jan 9-30-98*



PAGE 2 OF 2

**SURVEY RESULTS (DPM/100 CM<sup>2</sup>)**

## SKETCH

[illegible]

# RADIOLOGICAL CONTAMINATION SURVEY FORM

PAGE 1 OF 2

LOG NUMBER:	
FOR: P/WRE _____ PRL _____	
RNP _____ OTHER _____	
BUILDING/LOCATION:	ROOM:
DATE:	TIME:
ITEM DESCRIPTION:	
COMMENTS:	
PERFORMED BY (PRINT NAME):	
RCT SIGNATURE	EMP# DATE

## REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:			
CAL DATE:			
CAL DUE DATE:			
MFR:	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4
SERIAL #:			
CAL DATE:			
CAL DUE DATE:			

## TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH
MODEL:	ELECTRA
SERIAL #:	
CAL DATE:	
CAL DUE DATE:	
BACKGROUND:	
EFFICIENCY:	
MDA:	

REVIEWED BY: \_\_\_\_\_ RO SUPERVISION PRINT NAME

RO SUPERVISION SIGNATURE \_\_\_\_\_ DATE

$$MDA = CF \times [2.71 + 4.65 \sqrt{\text{BACKGROUND (CPM)}}]$$

## ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model SAC-4	Model SAC-4	Model SAC-4
Serial # 795	Serial # 824	Serial # 8204
Cal Due 9-13-98	Cal Due 9-24-98	Cal Due 12-11-98
Bkg. 0.1	Bkg. 0.1	Bkg. 33
Efficiency 33%	Efficiency 33%	Efficiency 25%
MDA 20dpm	MDA 20dpm	MDA 200dpm

Mfg. EBERLINE	Mfg. NE.TECH	Mfg. NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # 8202	Serial #	Serial #
Cal Due 12-15-98	Cal Due	Cal Due
Bkg. 34	Bkg.	Bkg.
Efficiency 25%	Efficiency	Efficiency
MDA 200dpm	MDA	MDA

## Survey Type: CONTAMINATION

Building: 904  
 Location: TENT 11  
 Purpose: WEEKLY SURVEY

RWP #: 8-5-98

Date: 8-5-98 Time: 1000

RCT: M402 [Signature] [Redacted]  
 Print name Signature Emp. #

RCT: 8-5-98  
 Print name Signature Emp. #

PRL #:

Comments:

See Reverse side for map.

## SURVEY RESULTS

REMOVABLE		DIRECT		REMOVABLE		DIRECT	
ALPHA	BETA	ALPHA	BETA	ALPHA	BETA	ALPHA	BETA
1. <20	<200			23.			
2. <20	<200			24.			
3. <20	<200			25.			
4. <20	<200			26.			
5. <20	<200			27.			
6. <20	<200			28.			
7. <20	<200			29.			
8. <20	<200			30.			
9. <20	<200			31.			
10. <20	<200			32.			
11. <20	<200			33.			
12. <20	<200			34.			
13. <20	<200			35.			
14. <20	<200			36.			
15. <20	<200			37.			
16.				38.			
17.				39.			
18.				40.			
19.				41.			
20.				42.			
21.				43.			
22.				44.			

Date Reviewed: 8/26/98

RS Supervision:

Print Name

Signature

358

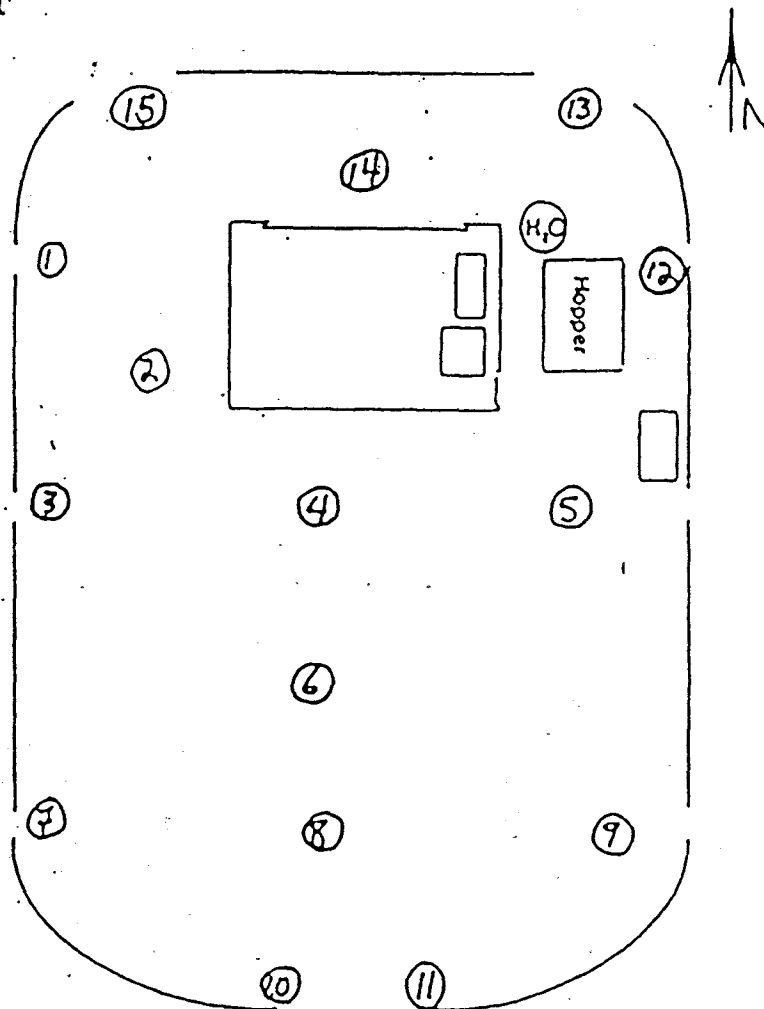
# ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## RADIOLOGICAL SAFETY

Drawing Showing Survey Points

Radiological Operations  
Area or Equipment Drawing Showing Survey Points

Tent 11



**INFORMATION ONLY****ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE****INSTRUMENT DATA**

Mfg. EBERLINE Model SAC-4 Serial # 795 Cal Due 9/13/98 Bkg. 0.0 Efficiency 33% MDA <20  
 Mfg. EBERLINE Model SAC-4 Serial # 824 Cal Due 9/24/98 Bkg. 0.0 Efficiency 33% MDA <20  
 Mfg. EBERLINE Model SAC-4 Serial # BC704 Cal Due 9/24/98 Bkg. 0.0 Efficiency 25% MDA <20

Mfg. EBERLINE Model BC-4 Serial # BC702 Cal Due 12/15/98 Bkg. 38 Efficiency 25% MDA <20  
 Mfg. NE.TECH Model ELECTRA Serial # Cal Due Bkg. Efficiency MDA  
 Mfg. NE.TECH Model ELECTRA Serial # Cal Due Bkg. Efficiency MDA

Survey Type: **CONTAMINATION**Building: **904**Location: **TENT 11**Purpose: **WEEKLY SURVEY**RWP #: **NA**Date: **8/13/98**Time: **10:00**RCT: **NTS**  
Print name

Signature

RCT: **/**  
Print name

Signature

Emp. #

PRL #: **NA**

Comments:

**SURVEY RESULTS**

REMOVABLE		DIRECT		REMOVABLE		DIRECT	
ALPHA	BETA	ALPHA	BETA	ALPHA	BETA	ALPHA	BETA
1. <b>L20</b>	<b>L200</b>			23.			
2. <b>L20</b>	<b>L200</b>			24.			
3. <b>L20</b>	<b>L200</b>			25.			
4. <b>L20</b>	<b>L200</b>			26.			
5. <b>L20</b>	<b>L200</b>			27.			
6. <b>L20</b>	<b>L200</b>			28.			
7. <b>L20</b>	<b>L200</b>			29.			
8. <b>L20</b>	<b>L200</b>			30.			
9. <b>L20</b>	<b>L200</b>			31.			
10. <b>L20</b>	<b>L200</b>			32.			
11. <b>L20</b>	<b>L200</b>			33.			
12. <b>L20</b>	<b>L200</b>			34.			
13. <b>L20</b>	<b>L200</b>			35.			
14. <b>L20</b>	<b>L200</b>			36.			
15. <b>L20</b>	<b>L200</b>			37.			
16.				38.			
17.				39.			
18.				40.			
19.				41.			
20.				42.			
21.				43.			
22.				44.			

Date Reviewed: **8/26/98**

RS Supervision:

Print Name

Signature

Emp. #

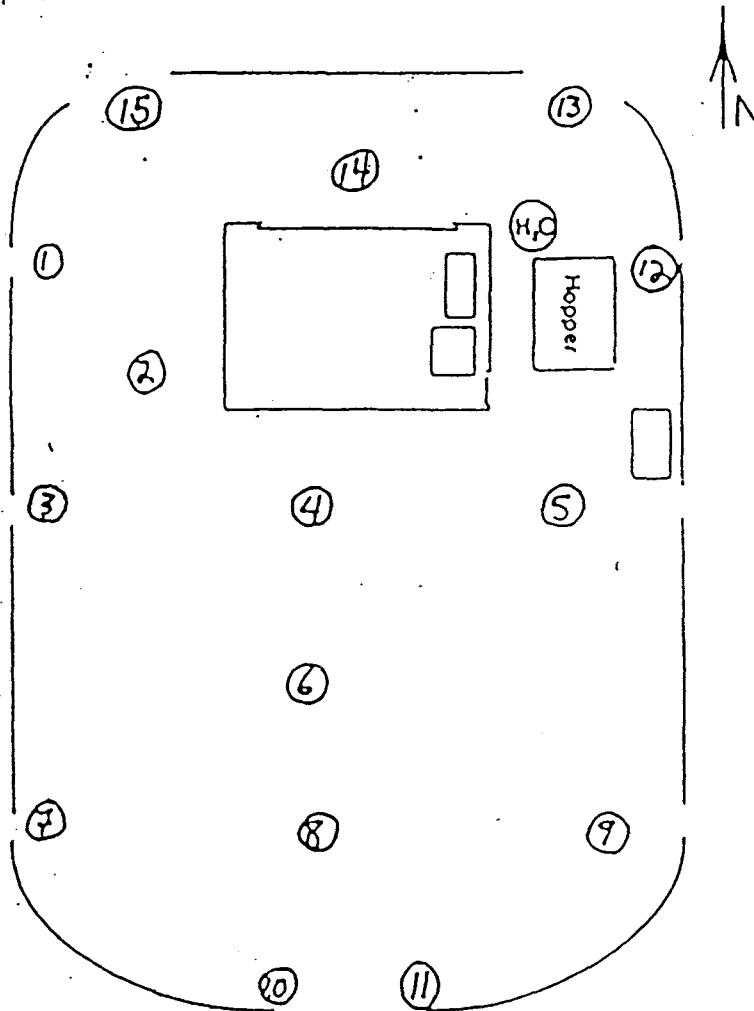
**ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE**

**RADIOLOGICAL SAFETY**

Drawing Showing Survey Points

Radiological Operations  
Area or Equipment Drawing Showing Survey Points

Tent 11



**INFORMATION ONLY**

RS FORMS 07.02-01

**ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE****INSTRUMENT DATA**

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model SAC-4	Model SAC-4	Model SAC-4
Serial # <u>795</u>	Serial # <u>824</u>	Serial # <u>BC704</u>
Cal Due <u>9-13-98</u>	Cal Due <u>9-24-98</u>	Cal Due <u>12-11-98</u>
Bkg. <u>0.0</u>	Bkg. <u>0.2</u>	Bkg. <u>41</u>
Efficiency <u>33%</u>	Efficiency <u>33%</u>	Efficiency <u>25%</u>
MDA <u>&lt;200dpm</u>	MDA <u>&lt;200dpm</u>	MDA <u>&lt;200dpm</u>

Survey Type: **CONTAMINATION**

Building: 904  
 Location: TENT 11  
 Purpose: WEEKLY SURVEY  
 RWP #: 8-19-98

Date: 8-19-98 Time: 0800

RCT: Munoz Munoz [REDACTED]  
 Print name Signature Emp. #

RCT: 8-19-98  
 Print name Signature Emp. #

Mfg. EBERLINE	Mfg. NE. TECH	Mfg. NE. TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # <u>BC702</u>	Serial # <u>8-19-98</u>	Serial # <u>8-19-98</u>
Cal Due <u>12-15-98</u>	Cal Due <u>8-19-98</u>	Cal Due <u>8-19-98</u>
Bkg. <u>38</u>	Bkg. <u>8-19-98</u>	Bkg. <u>8-19-98</u>
Efficiency <u>25%</u>	Efficiency <u>8-19-98</u>	Efficiency <u>8-19-98</u>
MDA <u>&lt;200dpm</u>	MDA <u>8-19-98</u>	MDA <u>8-19-98</u>

PRL #: 8-19-98

Comments:

**SURVEY RESULTS**

REMOVABLE		DIRECT		REMOVABLE		DIRECT	
ALPHA	BETA	ALPHA	BETA	ALPHA	BETA	ALPHA	BETA
1. <u>&lt;20</u>	<u>&lt;200</u>			23.			
2. <u>&lt;20</u>	<u>&lt;200</u>			24.			
3. <u>&lt;20</u>	<u>&lt;200</u>			25.			
4. <u>&lt;20</u>	<u>&lt;200</u>			26.			
5. <u>&lt;20</u>	<u>&lt;200</u>			27.			
6. <u>&lt;20</u>	<u>&lt;200</u>			28.			
7. <u>&lt;20</u>	<u>&lt;200</u>			29.			
8. <u>&lt;20</u>	<u>&lt;200</u>			30.			
9. <u>&lt;20</u>	<u>&lt;200</u>			31.			
10. <u>&lt;20</u>	<u>&lt;200</u>			32.			
11. <u>&lt;20</u>	<u>&lt;200</u>			33.			
12. <u>&lt;20</u>	<u>&lt;200</u>			34.			
13. <u>&lt;20</u>	<u>&lt;200</u>			35.			
14. <u>&lt;20</u>	<u>&lt;200</u>			36.			
15. <u>&lt;20</u>	<u>&lt;200</u>			37.			
16.				38.			
17.				39.			
18.				40.			
19.				41.			
20.				42.			
21.				43.			
22.				44.			

Date Reviewed: 9/3/98 RS Supervision:

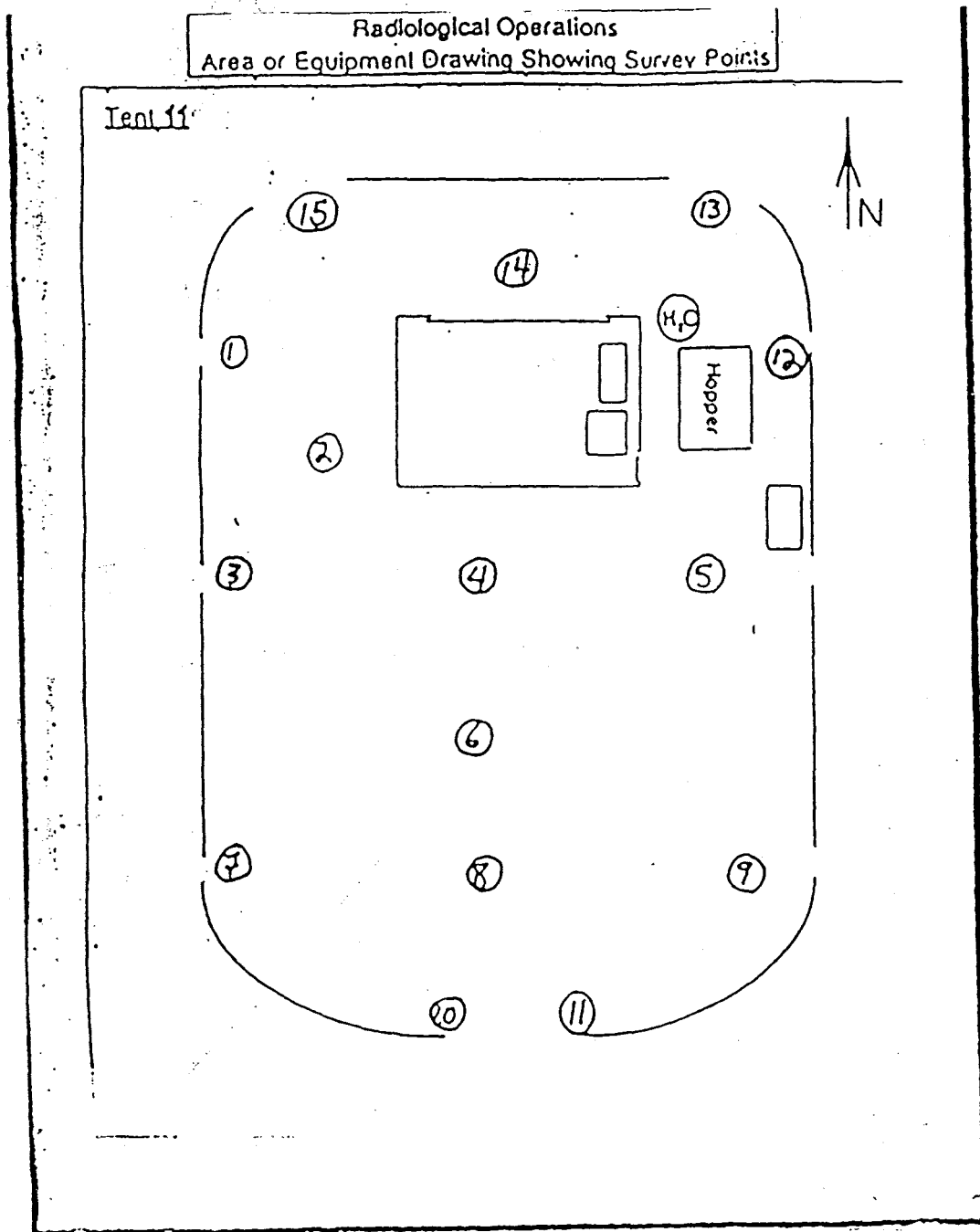
Print Name

Signature

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points





**ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE****INSTRUMENT DATA**

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model SAC-4	Model SAC-4	Model SAC-4
Serial # <u>795</u>	Serial # <u>824</u>	Serial # <u>BC704</u>
Cal Due <u>9-13-98</u>	Cal Due <u>9-24-98</u>	Cal Due <u>12-11-98</u>
Bkg. <u>0.0</u>	Bkg. <u>0.2</u>	Bkg. <u>36</u>
Efficiency <u>33%</u>	Efficiency <u>33%</u>	Efficiency <u>25%</u>
MDA <u>20dpm</u>	MDA <u>20dpm</u>	MDA <u>200dpm</u>

Mfg. EBERLINE	Mfg. NE.TECH	Mfg. NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # <u>BC702</u>	Serial # <u>824</u>	Serial # <u>BC704</u>
Cal Due <u>12-15-98</u>	Cal Due <u>9-24-98</u>	Cal Due <u>12-11-98</u>
Bkg. <u>36</u>	Bkg. <u>0.2</u>	Bkg. <u>36</u>
Efficiency <u>25%</u>	Efficiency <u>33%</u>	Efficiency <u>25%</u>
MDA <u>200dpm</u>	MDA <u>20dpm</u>	MDA <u>200dpm</u>

Survey Type: **CONTAMINATION**Building: 904  
Location: TENT 11  
Purpose: WEEKLY SURVEYRWP #: 8-27-98Date: 8-27-98 Time: 0900RCT: Munoz [Signature] [Redacted]  
Print name Signature Emp. #RCT: 1 [Signature] 1  
Print name Signature Emp. #PRL #: 8-27-98Comments: See page 2 of 2 for survey map**SURVEY RESULTS**

REMOVABLE		DIRECT		REMOVABLE		DIRECT	
ALPHA	BETA	ALPHA	BETA	ALPHA	BETA	ALPHA	BETA
1. <u>&lt;20</u>	<u>&lt;200</u>			23. <u>&lt;20</u>			
2. <u>&lt;20</u>	<u>&lt;200</u>			24. <u>&lt;20</u>			
3. <u>&lt;20</u>	<u>&lt;200</u>			25. <u>&lt;20</u>			
4. <u>&lt;20</u>	<u>&lt;200</u>			26. <u>&lt;20</u>			
5. <u>&lt;20</u>	<u>&lt;200</u>			27. <u>&lt;20</u>			
6. <u>&lt;20</u>	<u>&lt;200</u>			28. <u>&lt;20</u>			
7. <u>&lt;20</u>	<u>&lt;200</u>			29. <u>&lt;20</u>			
8. <u>&lt;20</u>	<u>&lt;200</u>			30. <u>&lt;20</u>			
9. <u>&lt;20</u>	<u>&lt;200</u>			31. <u>&lt;20</u>			
10. <u>&lt;20</u>	<u>&lt;200</u>			32. <u>&lt;20</u>			
11. <u>&lt;20</u>	<u>&lt;200</u>			33. <u>&lt;20</u>			
12. <u>&lt;20</u>	<u>&lt;200</u>			34. <u>&lt;20</u>			
13. <u>&lt;20</u>	<u>&lt;200</u>			35. <u>&lt;20</u>			
14. <u>&lt;20</u>	<u>&lt;200</u>			36. <u>&lt;20</u>			
15. <u>&lt;20</u>	<u>&lt;200</u>			37. <u>&lt;20</u>			
16. <u>&lt;20</u>	<u>&lt;200</u>			38. <u>&lt;20</u>			
17. <u>&lt;20</u>	<u>&lt;200</u>			39. <u>&lt;20</u>			
18. <u>&lt;20</u>	<u>&lt;200</u>			40. <u>&lt;20</u>			
19. <u>&lt;20</u>	<u>&lt;200</u>			41. <u>&lt;20</u>			
20. <u>&lt;20</u>	<u>&lt;200</u>			42. <u>&lt;20</u>			
21. <u>&lt;20</u>	<u>&lt;200</u>			43. <u>&lt;20</u>			
22. <u>&lt;20</u>	<u>&lt;200</u>			44. <u>&lt;20</u>			

Date Reviewed: 8/3/98 RS Supervision: K. G. [Signature]

Print Name

Signature

Emp. #

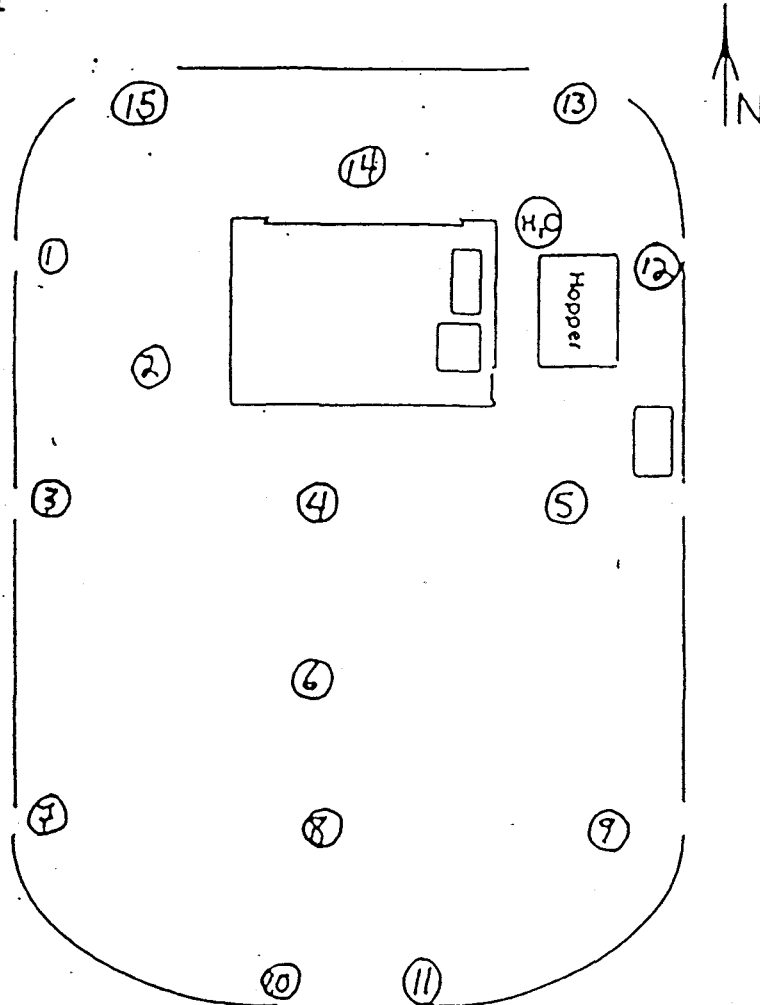
ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

Radiological Operations  
Area or Equipment Drawing Showing Survey Points

Tent 11



365

## ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model SAC-4	Model SAC-4	Model SAC-4
Serial # <u>795</u>	Serial # <u>824</u>	Serial # <u>704</u>
Cal Due <u>9-13-98</u>	Cal Due <u>9-24-98</u>	Cal Due <u>12-11-98</u>
Bkg. <u>0.3</u>	Bkg. <u>0.1</u>	Bkg. <u>37</u>
Efficiency <u>33%</u>	Efficiency <u>33%</u>	Efficiency <u>25%</u>
MDA <u>20dpm</u>	MDA <u>20dpm</u>	MDA <u>800dpm</u>

Survey Type: CONTAMINATION

Building: 904  
 Location: TENT 11  
 Purpose: WEEKLY SURVEY

RWP #:

Date: 9-29-98 9-29-98 Time: 1000

RCT: M.E. VAUGHN 17.00  
 Print name Signature

RCT: / /  
 Print name Signature Emp. #

Mfg. EBERLINE	Mfg. NE.TECH	Mfg. NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # <u>702</u>	Serial #	Serial #
Cal Due <u>12-15-98</u>	Cal Due	Cal Due
Bkg. <u>39</u>	Bkg.	Bkg.
Efficiency <u>25%</u>	Efficiency	Efficiency
MDA <u>200dpm</u>	MDA	MDA

PRL #:

Comments:

## SURVEY RESULTS

REMOVABLE		DIRECT		REMOVABLE		DIRECT	
ALPHA	BETA	ALPHA	BETA	ALPHA	BETA	ALPHA	BETA
1. <u>&lt;20</u>	<u>&lt;200</u>			23.			
2.				24.			
3.				25.			
4.				26.			
5.				27.			
6.				28.			
7.				29.			
8.				30.			
9.				31.			
10.				32.			
11.				33.			
12.				34.			
13.				35.			
14.				36.			
15.				37.			
16.				38.			
17.				39.			
18.				40.			
19.				41.			
20.				42.			
21.				43.			
22.				44.			

Date Reviewed: 9/3/98

RS Supervision:

Print Name

Signature

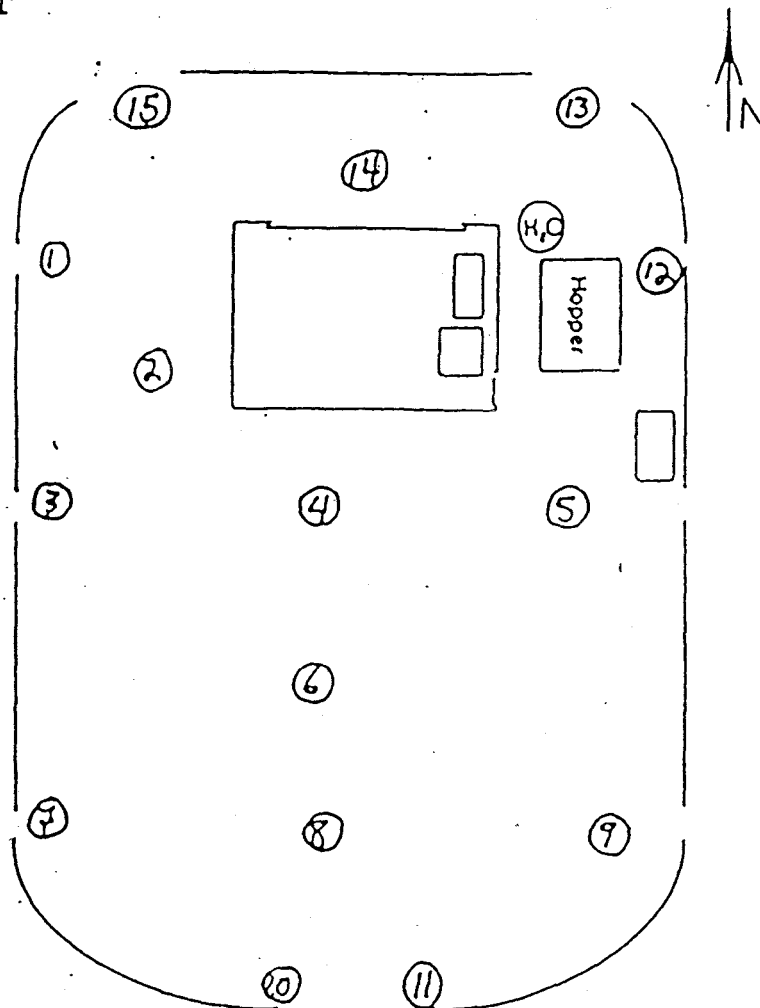
# ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## RADIOLOGICAL SAFETY

### Drawing Showing Survey Points

Radlological Operations  
Area or Equipment Drawing Showing Survey Points

Tent 11



**ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE**

**INSTRUMENT DATA**

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model SAC-4	Model SAC-4	Model SAC-4
Serial # <u>795</u>	Serial # <u>824</u>	Serial # <u>BC 838</u>
Cal Due <u>9-13-98</u>	Cal Due <u>9-24-98</u>	Cal Due <u>1-9-99</u>
Bkg. <u>0.1</u>	Bkg. <u>0.0</u>	Bkg. <u>39</u>
Efficiency <u>33%</u>	Efficiency <u>33%</u>	Efficiency <u>25%</u>
MDA <u>200 dpm</u>	MDA <u>200 dpm</u>	MDA <u>200 dpm</u>
Mfg. EBERLINE	Mfg. NE. TECH	Mfg. NE. TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # <u>BC 702</u>	Serial # <u>9-9-98</u>	Serial # <u>9-9-98</u>
Cal Due <u>12-15-98</u>	Cal Due <u>9-9-98</u>	Cal Due <u>9-9-98</u>
Bkg. <u>44</u>	Bkg. <u>9-9-98</u>	Bkg. <u>9-9-98</u>
Efficiency <u>25%</u>	Efficiency <u>9-9-98</u>	Efficiency <u>9-9-98</u>
MDA <u>200 dpm</u>	MDA <u>9-9-98</u>	MDA <u>9-9-98</u>

**Survey Type: CONTAMINATION**

Building: 904  
 Location: TENT 11  
 Purpose: WEEKLY SURVEY  
 RWP #: an 9-9-98  
 Date: 9-9-98 Time: 0900  
 RCT: Minor Minor  
 Print name Signature  
 RCT: an 9-9-98  
 Print name Signature Emp. #

PRL #: an 9-9-98

Comments: See Survey Map for survey points

**SURVEY RESULTS**

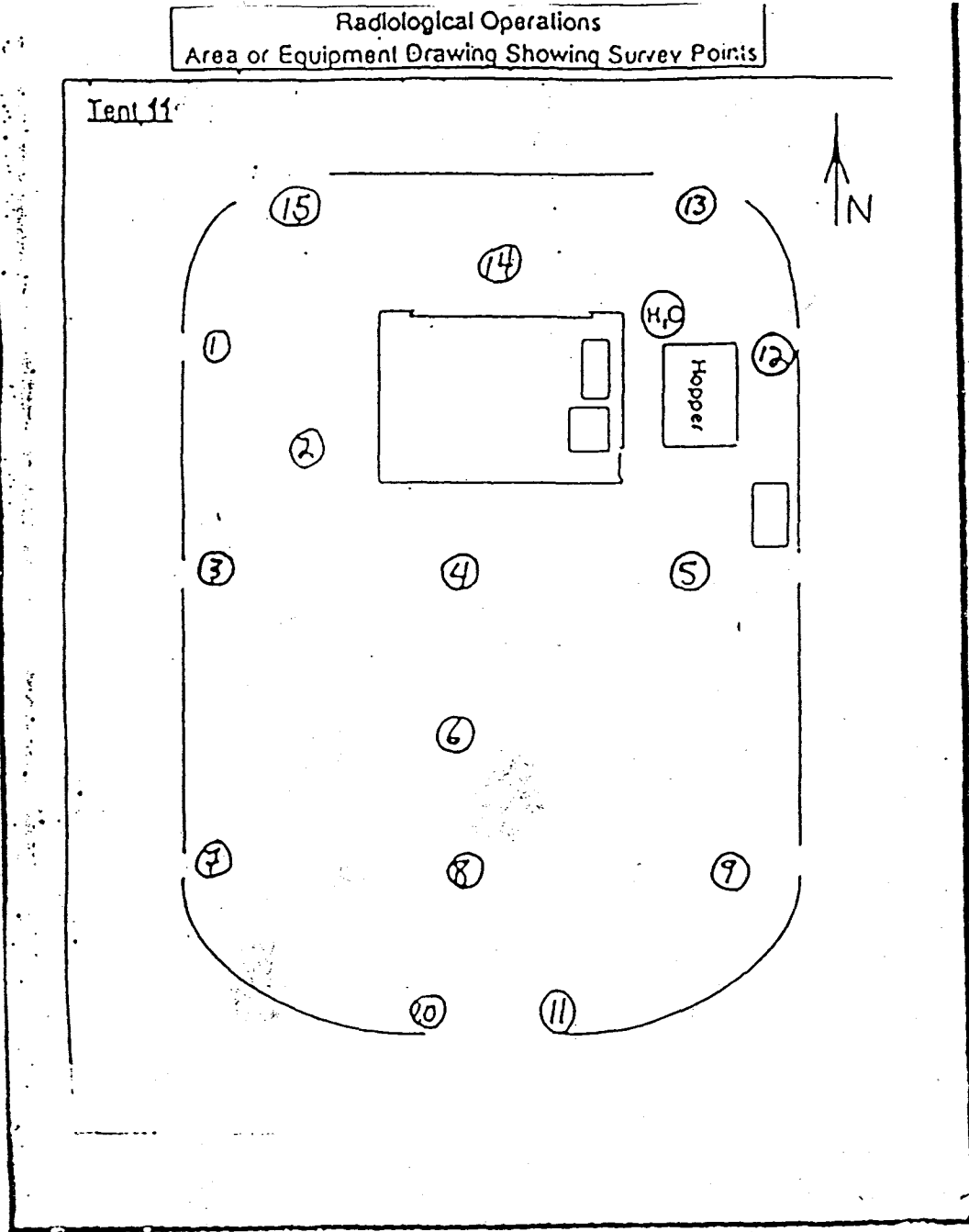
REMOVABLE		DIRECT		REMOVABLE		DIRECT	
ALPHA	BETA	ALPHA	BETA	ALPHA	BETA	ALPHA	BETA
1. <u>&lt;20</u>	<u>&lt;200</u>			23.			
2. <u>&lt;20</u>	<u>&lt;200</u>			24.			
3. <u>&lt;20</u>	<u>&lt;200</u>			25.			
4. <u>&lt;20</u>	<u>&lt;200</u>			26.			
5. <u>&lt;20</u>	<u>&lt;200</u>			27.			
6. <u>&lt;20</u>	<u>&lt;200</u>			28.			
7. <u>&lt;20</u>	<u>&lt;200</u>			29.			
8. <u>&lt;20</u>	<u>&lt;200</u>			30.			
9. <u>&lt;20</u>	<u>&lt;200</u>			31.			
10. <u>&lt;20</u>	<u>&lt;200</u>			32.			
11. <u>&lt;20</u>	<u>&lt;200</u>			33.			
12. <u>&lt;20</u>	<u>&lt;200</u>			34.			
13. <u>&lt;20</u>	<u>&lt;200</u>			35.			
14. <u>&lt;20</u>	<u>&lt;200</u>			36.			
15. <u>&lt;20</u>	<u>&lt;200</u>			37.			
16.				38.			
17.				39.			
18.				40.			
				41.			
				42.			
21.				43.			
22.				44.			

Date Reviewed: 9/15/98 RS Supervision: J. Ewell  
 368 Print Name Signature

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points



364

# INFORMATION ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## INSTRUMENT DATA


Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model SAC-4	Model SAC-4	Model SAC-4
Serial # <u>767</u>	Serial # <u>824</u>	Serial # <u>838</u>
Cal Due <u>10-14-98</u>	Cal Due <u>9-24-98</u>	Cal Due <u>1-9-98</u>
Bkg. <u>0.0</u>	Bkg. <u>0.1</u>	Bkg. <u>40</u>
Efficiency <u>33%</u>	Efficiency <u>33%</u>	Efficiency <u>25%</u>
MDA <u>420 dpm</u>	MDA <u>420 dpm</u>	MDA <u>4200 dpm</u>
Mfg. EBERLINE	Mfg. NE.TECH	Mfg. NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # <u>707</u>	Serial # <u>9-16-98</u>	Serial # <u>9-16-98</u>
Cal Due <u>12-15-98</u>	Cal Due <u>9-16-98</u>	Cal Due <u>9-16-98</u>
Bkg. <u>41</u>	Bkg. <u>9-16-98</u>	Bkg. <u>9-16-98</u>
Efficiency <u>25%</u>	Efficiency <u>9-16-98</u>	Efficiency <u>9-16-98</u>
MDA <u>4200 dpm</u>	MDA <u>9-16-98</u>	MDA <u>9-16-98</u>

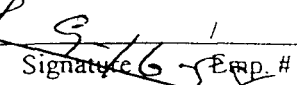
Survey Type: CONTAMINATION

Building: 904  
Location: TENT 11  
Purpose: WEEKLY SURVEY

RWP #: JH 9-16-98

Date: 9-16-98 Time: 1440

RCT: Harkins   
Print name

RCT: JH 9-16-98   
Print name Signature Emp. #

PRL #: \_\_\_\_\_

Comments: \_\_\_\_\_

JH 9-16-98

## SURVEY RESULTS

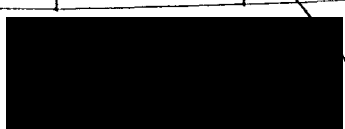
REMOVABLE		DIRECT		REMOVABLE		DIRECT	
ALPHA	BETA	ALPHA	BETA	ALPHA	BETA	ALPHA	BETA
1. <u>420</u>	<u>4200</u>			23.			
2. <u>420</u>	<u>4200</u>			24.			
3. <u>420</u>	<u>4200</u>			25.			
4. <u>420</u>	<u>4200</u>			26.			
5. <u>420</u>	<u>4200</u>			27.			
6. <u>420</u>	<u>4200</u>			28.			
7. <u>420</u>	<u>4200</u>			29.			
8. <u>420</u>	<u>4200</u>			30.			
9. <u>420</u>	<u>4200</u>			31.			
10. <u>420</u>	<u>4200</u>			32.			
11. <u>420</u>	<u>4200</u>			33.			
12. <u>420</u>	<u>4200</u>			34.			
13. <u>420</u>	<u>4200</u>			35.			
14. <u>420</u>	<u>4200</u>			36.			
15. <u>420</u>	<u>4200</u>			37.			
16.				38.			
17.				39.			
18.				40.			
19.				41.			
20.				42.			
21.				43.			
22.				44.			

Date Reviewed: 9/28/98

RS Supervision: J. Ewell

Print Name

J. Ewell  
Signature



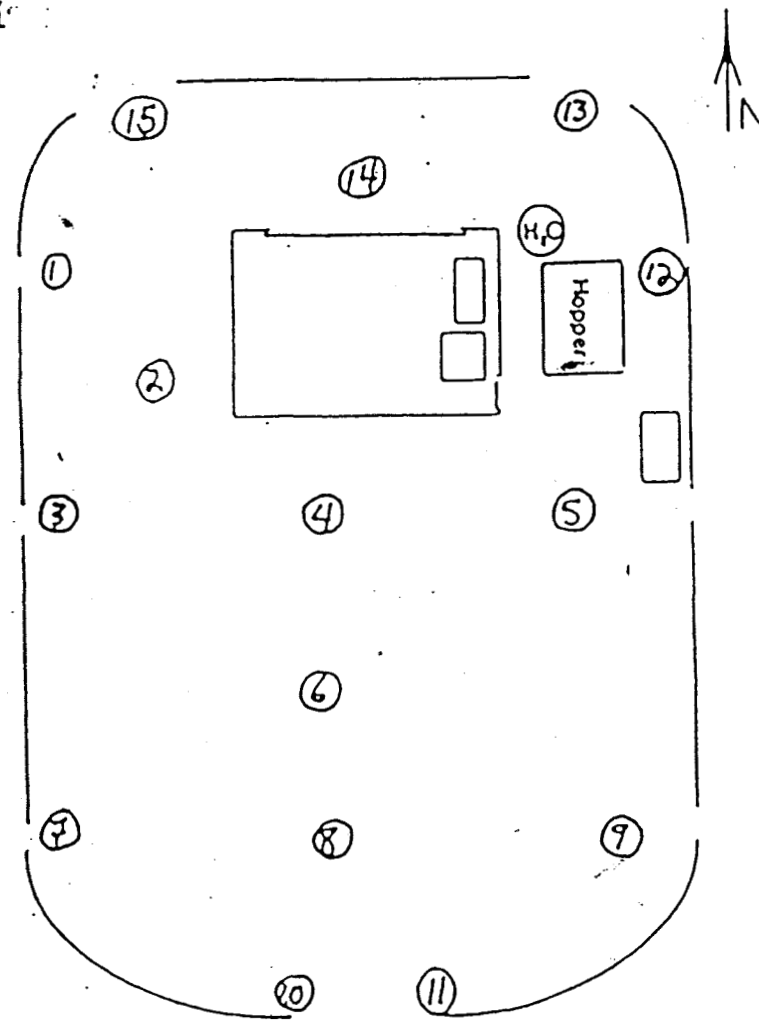
ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

Radiological Operations  
Area or Equipment Drawing Showing Survey Points

Tent 11





## INFORMATION ONLY

RS FORMS 07.02-01

## ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model SAC-4	Model SAC-4	Model SAC-4
Serial # 767	Serial # 795	Serial # <del>BC838</del>
Cal Due 10-14-98	Cal Due 3-16-99	Cal Due 1-9-99
Bkg. 0.1	Bkg. 0.2	Bkg. 39
Efficiency 33%	Efficiency 33%	Efficiency 25%
MDA 20dpm	MDA 20dpm	MDA 200dpm
Mfg. EBERLINE	Mfg. NE.TECH	Mfg. NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # BC702	Serial # <del>BC702</del>	Serial # <del>BC702</del>
Cal Due 12-15-98	Cal Due <del>12-15-98</del>	Cal Due <del>12-15-98</del>
Bkg. 38	Bkg. <del>38</del>	Bkg. <del>38</del>
Efficiency 25%	Efficiency <del>25%</del>	Efficiency <del>25%</del>
MDA 200dpm	MDA <del>200dpm</del>	MDA <del>200dpm</del>

Survey Type: CONTAMINATION

Building: 904  
 Location: TENT 11  
 Purpose: WEEKLY SURVEY

RWP #: 9-23-98

Date: 9-23-98 Time: 0830

RCT: Munoz, M. [Redacted]  
 Print name Signature Emp. #

RCT: [Redacted]  
 Print name Signature Emp. #

PRL #: 9-23-98

Comments: See Map Page 2

## SURVEY RESULTS

REMOVABLE		DIRECT		REMOVABLE		DIRECT	
ALPHA	BETA	ALPHA	BETA	ALPHA	BETA	ALPHA	BETA
1. <20	<200			23. <20	<200		
2. <20	<200			24. <20	<200		
3. <20	<200			25. <20	<200		
4. <20	<200			26. <20	<200		
5. <20	<200			27. <20	<200		
6. <20	<200			28. <20	<200		
7. <20	<200			29. <20	<200		
8. <20	<200			30. <20	<200		
9. <20	<200			31. <20	<200		
10. <20	<200			32. <20	<200		
11. <20	<200			33. <20	<200		
12. <20	<200			34. <20	<200		
13. <20	<200			35. <20	<200		
14. <20	<200			36. <20	<200		
15. <20	<200			37. <20	<200		
16. <20	<200			38. <20	<200		
17. <20	<200			39. <20	<200		
18. <20	<200			40. <20	<200		
19. <20	<200			41. <20	<200		
20. <20	<200			42. <20	<200		
21. <20	<200			43. <20	<200		
22. <20	<200			44. <20	<200		

Date Reviewed: 10/5/98

RS Supervision: J. Ewell

Print Name

Signature

372

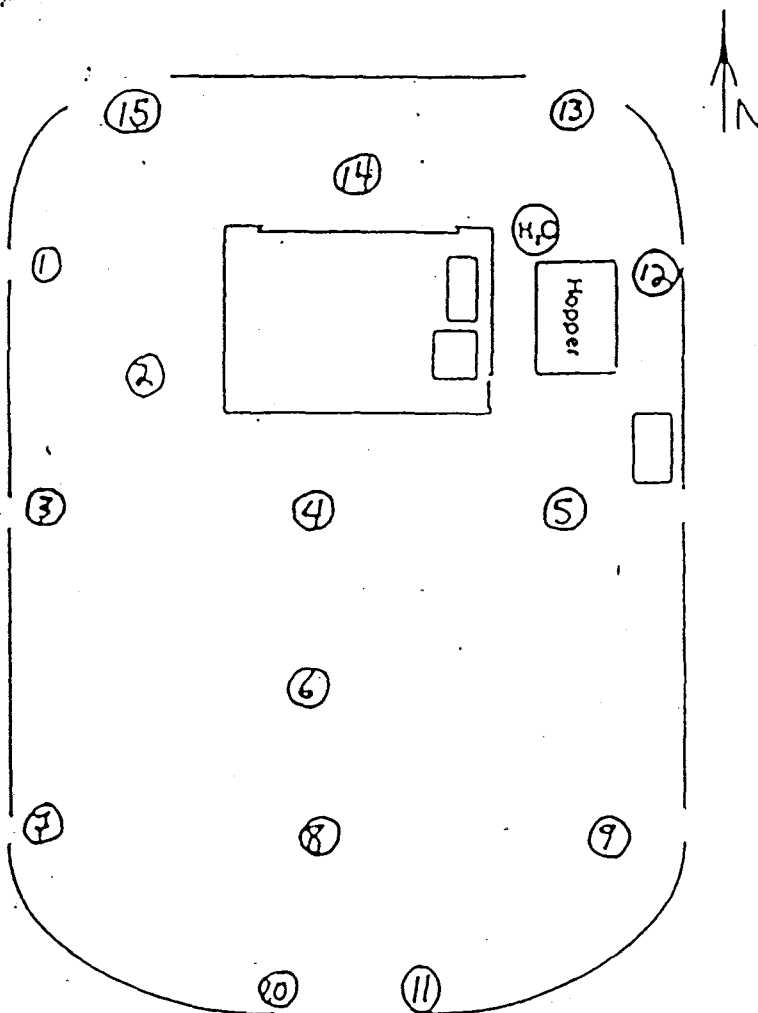
ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

Radiological Operations  
Area or Equipment Drawing Showing Survey Points

Tent 11



# INFORMATION ONLY

## ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

### INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model SAC-4	Model SAC-4	Model SAC-4
Serial # <u>767</u>	Serial # <u>795</u>	Serial # <u>Bc838</u>
Cal Due <u>10-14-98</u>	Cal Due <u>3-16-99</u>	Cal Due <u>1-9-99</u>
Bkg. <u>0.1</u>	Bkg. <u>0.7</u>	Bkg. <u>43</u>
Efficiency <u>33%</u>	Efficiency <u>33%</u>	Efficiency <u>25%</u>
MDA <u>20dpm</u>	MDA <u>20dpm</u>	MDA <u>200dpm</u>

Mfg. EBERLINE	Mfg. NE.TECH	Mfg. NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # <u>Bc702</u>	Serial # <u>/</u>	Serial # <u>/</u>
Cal Due <u>12-15-98</u>	Cal Due <u>/</u>	Cal Due <u>/</u>
Bkg. <u>36</u>	Bkg. <u>/</u>	Bkg. <u>/</u>
Efficiency <u>25%</u>	Efficiency <u>/</u>	Efficiency <u>/</u>
MDA <u>200dpm</u>	MDA <u>/</u>	MDA <u>/</u>

Survey Type: CONTAMINATIONBuilding: 904Location: TENT 11Purpose: WEEKLY SURVEYRWP #: 9-30-98Date: 9-30-98 Time: 0830RCT: Mundy [Signature]

Print name

Signature

Emp. #

RCT: / /

Print name

Signature

Emp. #

PRL #: 9-30-98

Comments:

See Survey Map Pg. 2

### SURVEY RESULTS

REMOVABLE		DIRECT		REMOVABLE		DIRECT	
ALPHA	BETA	ALPHA	BETA	ALPHA	BETA	ALPHA	BETA
1. <u>120</u>	<u>1200</u>			23.			
2. <u>120</u>	<u>1200</u>			24.			
3. <u>120</u>	<u>1200</u>			25.			
4. <u>120</u>	<u>1200</u>			26.			
5. <u>120</u>	<u>1200</u>			27.			
6. <u>120</u>	<u>1200</u>			28.			
7. <u>120</u>	<u>1200</u>			29.			
8. <u>120</u>	<u>1200</u>			30.			
9. <u>120</u>	<u>1200</u>			31.			
10. <u>120</u>	<u>1200</u>			32.			
11. <u>120</u>	<u>1200</u>			33.			
12. <u>120</u>	<u>1200</u>			34.			
13. <u>120</u>	<u>1200</u>			35.			
14. <u>120</u>	<u>1200</u>			36.			
15. <u>120</u>	<u>1200</u>			37.			
16.				38.			
17.				39.			
18.				40.			
19.				41.			
20.				42.			
21.				43.			
22.				44.			

Date Reviewed: 10/5/98 RS Supervision: J. Ewell

Print Name

Signature

Emp. #

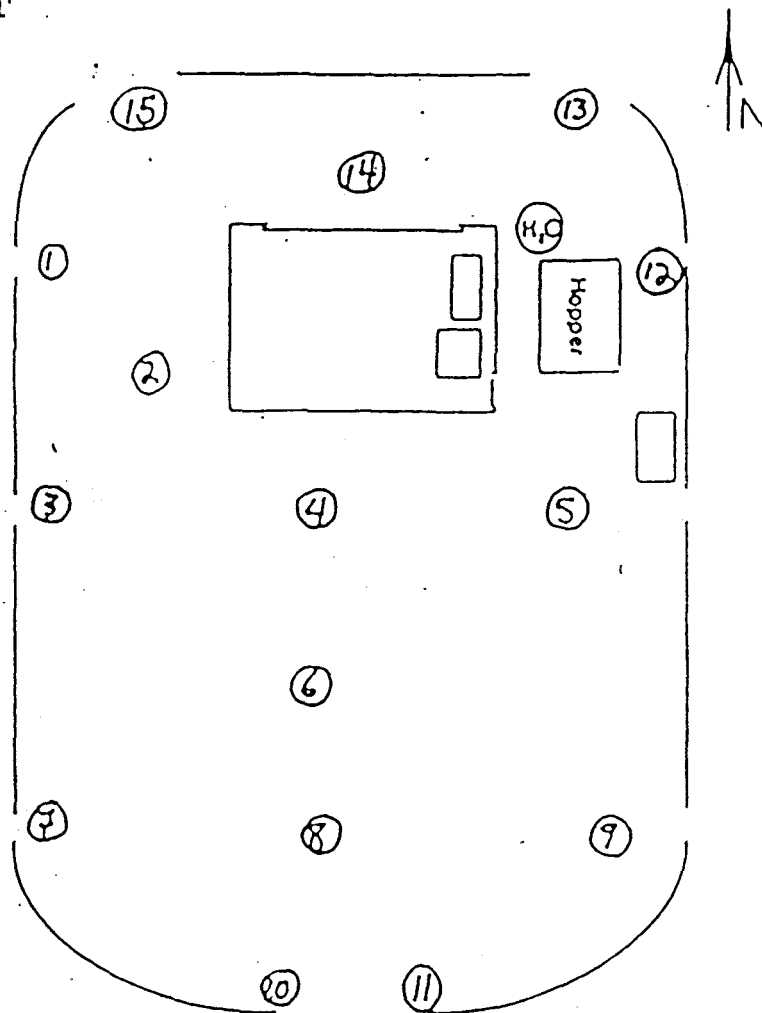
# ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## RADIOLOGICAL SAFETY

### Drawing Showing Survey Points

Radiological Operations  
Area or Equipment Drawing Showing Survey Points

Tent 11



**ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE**

**INSTRUMENT DATA**

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model SAC-4	Model SAC-4	Model SAC-4
Serial # 1050	Serial # 1199	Serial # 914
Cal Due 2-26-99	Cal Due 2-14-99	Cal Due 2-4-99
Bkg. 0.0	Bkg. 0.6	Bkg. 4.3
Efficiency 33%	Efficiency 33%	Efficiency 25%
MDA 420 dpm	MDA 420 dpm	MDA 4200 dpm

Mfg. EBERLINE	Mfg. NE.TECH	Mfg. NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # 706	Serial #	Serial #
Cal Due 12-22-98	Cal Due 10	Cal Due 10
Bkg. 38	Bkg. 12	Bkg. 12
Efficiency 25%	Efficiency	Efficiency
MDA 4200 dpm	MDA	MDA

**Survey Type: CONTAMINATION**

Building: 904  
Location: TENT 11  
Purpose: WEEKLY SURVEY

RWP #: 74 10-7-98

Date: 10-7-98 Time: 10:00

RCT: Hankins Hankins  
Print name [Redacted]  
RCT: 74 10-7-98  
Print name [Redacted] Signature [Redacted] Emp. # 1

PRL: 74  
Comments: 10-7-98

**SURVEY RESULTS**

REMOVABLE		DIRECT		REMOVABLE		DIRECT	
ALPHA	BETA	ALPHA	BETA	ALPHA	BETA	ALPHA	BETA
1. 420	4200			23.			
2. 420	4200			24.			
3. 420	4200			25.			
4. 420	4200			26.			
5. 420	4200			27.			
6. 420	4200			28.			
7. 420	4200			29.			
8. 420	4200			30.			
9. 420	4200			31.			
10. 420	4200			32.			
11. 420	4200			33.			
12. 420	4200			34.			
13. 420	4200			35.			
14. 420	4200			36.			
15. 420	4200			37.			
16.				38.			
17.				39.			
18.				40.			
19.				41.			
20.				42.			
21.				43.			
22.				44.			

Date Reviewed: 10/12/98 RS Supervision: J. E. WEAVER  
Print Name: [Redacted] Signature: [Redacted]

376

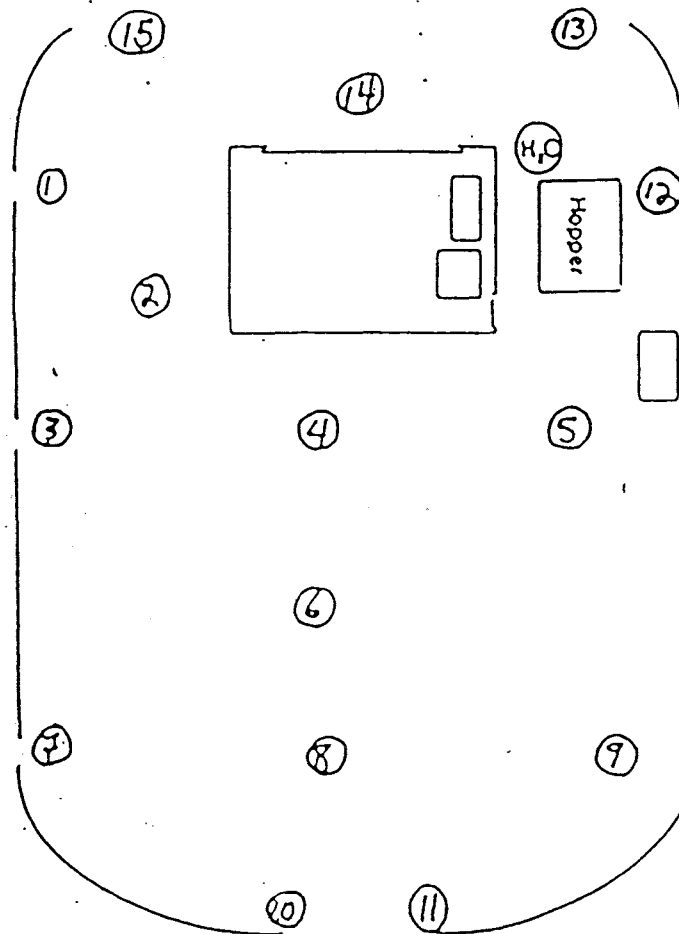
ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

Radiological Operations  
Area or Equipment Drawing Showing Survey Points

Tent 11



**INFORMATION ONLY****ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE****INSTRUMENT DATA**

10-14-98

Mfg. EBERLINE    Mfg. EBERLINE    Mfg. EBERLINE  
 Model SAC-4    Model SAC-4    Model SAC-4  
 Serial # 824    Serial # 795    Serial # 838  
 Cal Due 3-21-99    Cal Due 3-16-99    Cal Due 1-9-99  
 Bkg. 0.0 cpm    Bkg. 0.1 cpm    Bkg. 40 cpm  
 Efficiency .33    Efficiency .33    Efficiency .25  
 MDA 20 dpm    MDA 20 dpm    MDA 20 dpm

**Survey Type: CONTAMINATION**

Building: 904  
 Location: TENT 11  
 Purpose: WEEKLY SURVEY

RWP #: \_\_\_\_\_

Date: 10-14-98 Time: 1430

RCT: P. Everkh / P. Elgud [REDACTED]  
 Print name                      Signature

RCT: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
 Print name                      Signature                      Emp. #

Mfg. EBERLINE    Mfg. NE.TECH    Mfg. NE.TECH  
 Model BC-4    Model ELECTRA    Model ELECTRA  
 Serial # 702    Serial # \_\_\_\_\_    Serial # \_\_\_\_\_  
 Cal Due 12-15-98    Cal Due \_\_\_\_\_    Cal Due \_\_\_\_\_  
 Bkg. 42 cpm    Bkg. \_\_\_\_\_    Bkg. \_\_\_\_\_  
 Efficiency .25    Efficiency \_\_\_\_\_    Efficiency \_\_\_\_\_  
 MDA 200 dpm    MDA \_\_\_\_\_    MDA \_\_\_\_\_

PRL #: \_\_\_\_\_

Comments: \_\_\_\_\_

**SURVEY RESULTS**

REMOVABLE		DIRECT		REMOVABLE		DIRECT	
ALPHA	BETA	ALPHA	BETA	ALPHA	BETA	ALPHA	BETA
1. < 20	< 200			23.			
2. < 20	< 200			24.			
3. < 20	< 200			25.			
4. < 20	< 200			26.			
5. < 20	< 200			27.			
6. < 20	< 200			28.			
7. < 20	< 200			29.			
8. < 20	< 200			30.			
9. < 20	< 200			31.			
10. < 20	< 200			32.			
11. < 20	< 200			33.			
12. < 20	< 200			34.			
13. < 20	< 200			35.			
14. < 20	< 200			36.			
15. < 20	< 200			37.			
16.				38.			
17.				39.			
18.				40.			
19.				41.			
20.				42.			
21.				43.			
22.				44.			

Date Reviewed: 10/10/98 RS Supervision: \_\_\_\_\_

Print Name

Signature

Emp. #

378

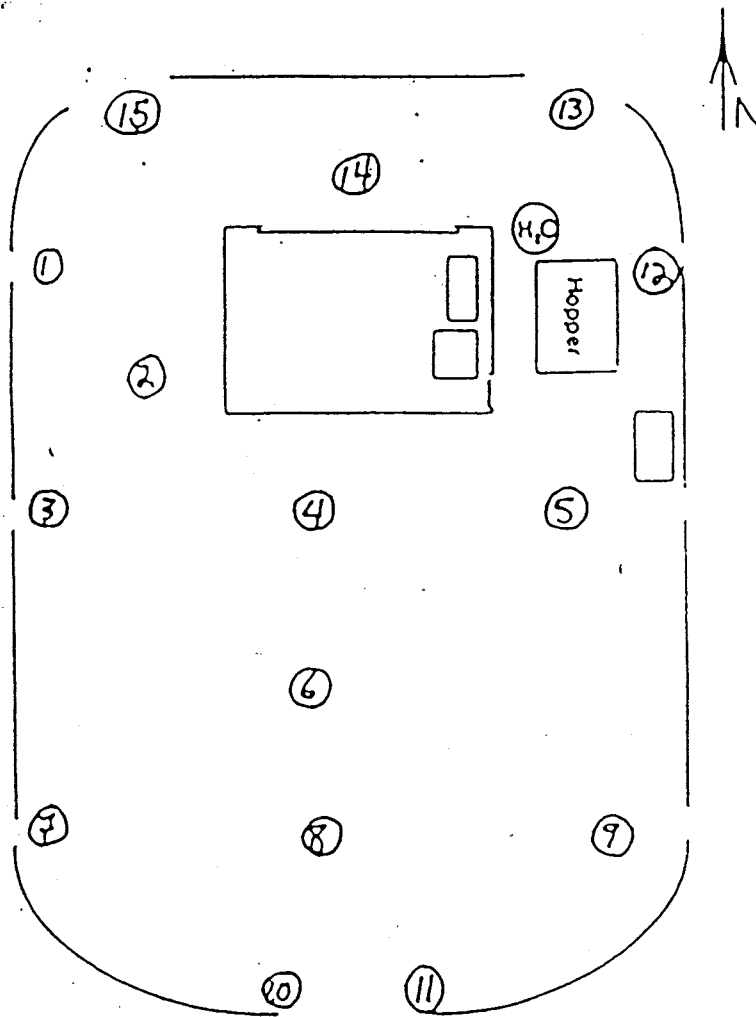
**ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE**

**RADIOLOGICAL SAFETY**

Drawing Showing Survey Points

Radiological Operations  
Area or Equipment Drawing Showing Survey Points

Tent 11





# INFORMATION ONLY

RS FORMS 07.02-01

## ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

### INSTRUMENT DATA

Mfg. EBERLINE Model SAC-4 Serial # 824 Cal Due 3-21-99 Bkg. 0.0 cpm Efficiency .33 MDA 20 dpm  
 Mfg. EBERLINE Model SAC-4 Serial # 795 Cal Due 3-16-99 Bkg. 0.0 cpm Efficiency .33 MDA 20 dpm  
 Mfg. EBERLINE Model SAC-4 Serial # 838 Cal Due 1-9-99 Bkg. 41 cpm Efficiency .25 MDA 20 dpm  
 Mfg. EBERLINE Model BC-4 Serial # 702 Cal Due 12-15-98 Bkg. 36 cpm Efficiency .25 MDA 20 dpm  
 Mfg. NE.TECH Model ELECTRA Serial # \_\_\_\_\_ Cal Due \_\_\_\_\_ Bkg. \_\_\_\_\_ Efficiency \_\_\_\_\_ MDA \_\_\_\_\_  
 Mfg. NE.TECH Model ELECTRA Serial # \_\_\_\_\_ Cal Due \_\_\_\_\_ Bkg. \_\_\_\_\_ Efficiency \_\_\_\_\_ MDA \_\_\_\_\_

### Survey Type: CONTAMINATION

Building: 904  
 Location: TENT 11  
 Purpose: WEEKLY SURVEY

RWP #: \_\_\_\_\_

Date: 10-19-98 Time: 1340

RCT: JABLONSKI [Signature]  
 Print name Signature

RCT: 1 \_\_\_\_\_  
 Print name Signature

PRL #: \_\_\_\_\_

Comments: \_\_\_\_\_

### SURVEY RESULTS

REMOVABLE		DIRECT		REMOVABLE		DIRECT	
ALPHA	BETA	ALPHA	BETA	ALPHA	BETA	ALPHA	BETA
1. < 20	< 200			23.			
2. < 20	< 200			24.			
3. < 20	< 200			25.			
4. < 20	< 200			26.			
5. < 20	< 200			27.			
6. < 20	< 200			28.			
7. < 20	< 200			29.			
8. < 20	< 200			30.			
9. < 20	< 200			31.			
10. < 20	< 200			32.			
11. < 20	< 200			33.			
12. < 20	< 200			34.			
13. < 20	< 200			35.			
14. < 20	< 200			36.			
15. < 20	< 200			37.			
16.				38.			
17.				39.			
18.				40.			
19.				41.			
20.				42.			
21.				43.			
22.				44.			

Date Reviewed: 10/23/98 RS Supervision: J. Ewell

Print Name

Signature

380

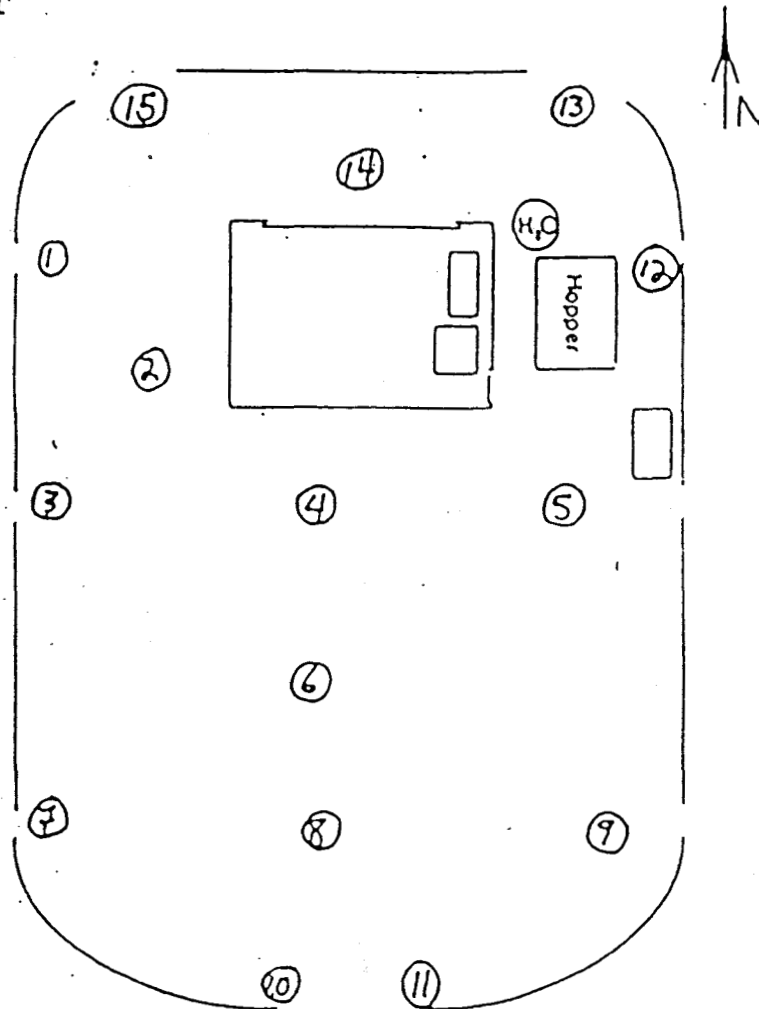
# ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## RADIOLOGICAL SAFETY

### Drawing Showing Survey Points

Radiological Operations  
Area or Equipment Drawing Showing Survey Points

Tent 11



# INFORMATION ONLY

RS FORMS 07.02-01

## ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

### INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model SAC-4	Model SAC-4	Model SAC-4
Serial # <u>824</u>	Serial # <u>795</u>	Serial # <u>838</u>
Cal Due <u>3-21-99</u>	Cal Due <u>3-16-99</u>	Cal Due <u>1-9-99</u>
Bkg. <u>0.1</u>	Bkg. <u>0.2</u>	Bkg. <u>40</u>
Efficiency <u>.33</u>	Efficiency <u>.33</u>	Efficiency <u>.25</u>
MDA <u>20 dpm</u>	MDA <u>20 dpm</u>	MDA <u>200 dpm</u>
Mfg. EBERLINE	Mfg. NE. TECH	Mfg. NE. TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # <u>702</u>	Serial # _____	Serial # _____
Cal Due <u>12-15-98</u>	Cal Due _____	Cal Due _____
Bkg. <u>40</u>	Bkg. _____	Bkg. _____
Efficiency <u>.25</u>	Efficiency _____	Efficiency _____
MDA <u>200 dpm</u>	MDA _____	MDA _____

### Survey Type: CONTAMINATION

Building: 904  
 Location: TENT 11  
 Purpose: WEEKLY SURVEY

RWP #: N/A

Date: 10-29-98 Time: 0900

RCT: P. Everich P. C. [Signature]  
 Print name Signature  
 RCT: R. [Signature] [Signature]  
 Print name Signature

PRL #: \_\_\_\_\_

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

### SURVEY RESULTS

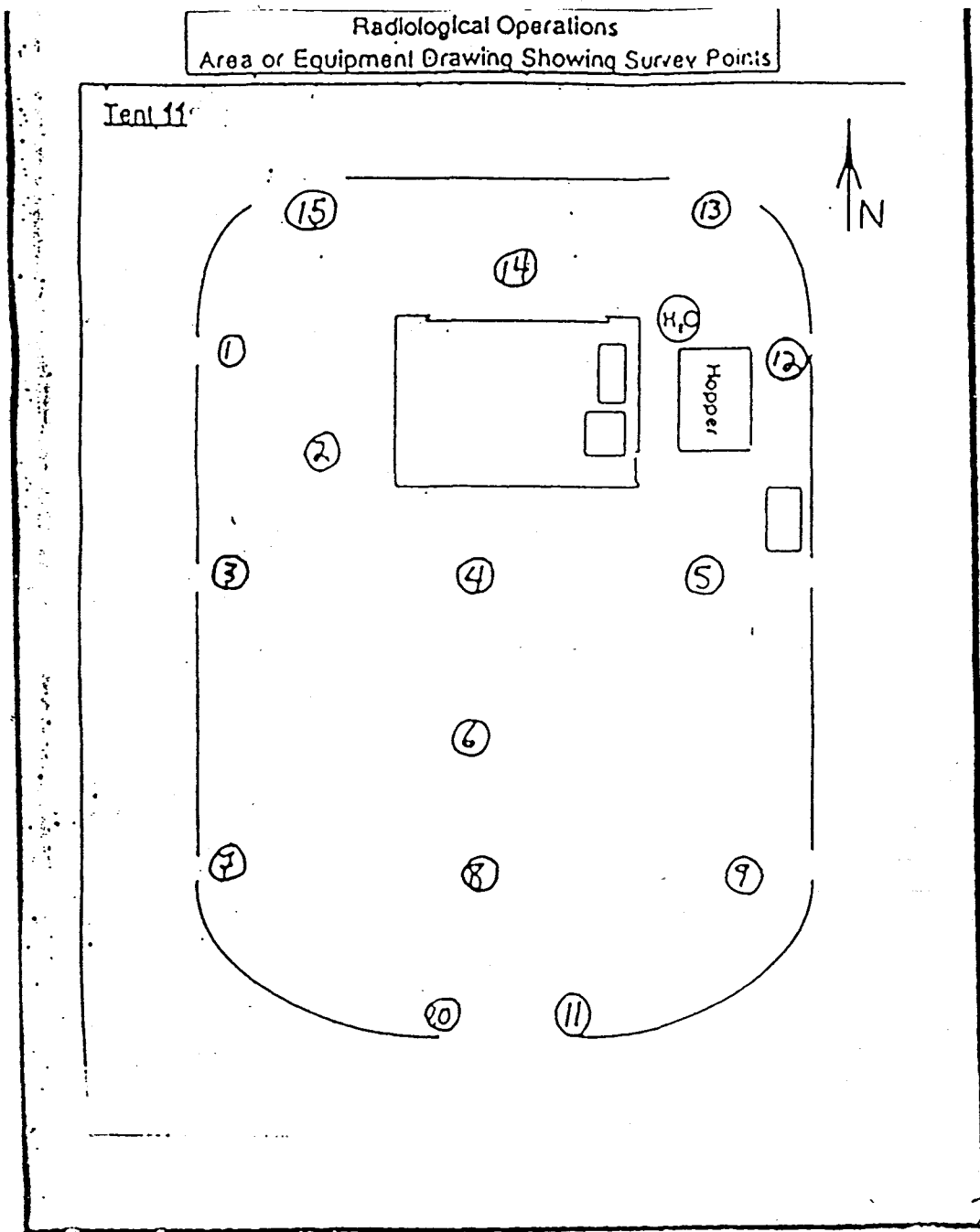
REMOVABLE		DIRECT		REMOVABLE		DIRECT	
ALPHA	BETA	ALPHA	BETA	ALPHA	BETA	ALPHA	BETA
1. <u>&lt;20</u>	<u>&lt;200</u>			23. _____			
2. <u>&lt;20</u>	<u>&lt;200</u>			24. _____			
3. <u>&lt;20</u>	<u>&lt;200</u>			25. _____			
4. <u>&lt;20</u>	<u>&lt;200</u>			26. _____			
5. <u>&lt;20</u>	<u>&lt;200</u>			27. _____			
6. <u>&lt;20</u>	<u>&lt;200</u>			28. _____			
7. <u>&lt;20</u>	<u>&lt;200</u>			29. _____			
8. <u>&lt;20</u>	<u>&lt;200</u>			30. _____			
9. <u>&lt;20</u>	<u>&lt;200</u>			31. _____			
10. <u>&lt;20</u>	<u>&lt;200</u>			32. _____			
11. <u>&lt;20</u>	<u>&lt;200</u>			33. _____			
12. <u>&lt;20</u>	<u>&lt;200</u>			34. _____			
13. <u>&lt;20</u>	<u>&lt;200</u>			35. _____			
14. <u>&lt;20</u>	<u>&lt;200</u>			36. _____			
15. <u>&lt;20</u>	<u>&lt;200</u>			37. _____			
16. _____				38. _____			
17. _____				39. _____			
18. _____				40. _____			
19. _____				41. _____			
20. _____				42. _____			
21. _____				43. _____			
22. _____				44. _____			

Date Reviewed: 382 RS Supervision: [Signature] Print Name: \_\_\_\_\_ Signature: \_\_\_\_\_ Emp #: \_\_\_\_\_

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points



## ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## INSTRUMENT DATA

Mfg. EBERLINE Mfg. EBERLINE Mfg. EBERLINE  
Model SAC-4 Model SAC-4 Model SAC-4  
Serial # 824 Serial # 795 Serial # 838  
Cal Due 3-21-99 Cal Due 3-16-99 Cal Due 1-9-99  
Bkg. 0.1 Bkg. 0.2 Bkg. 36  
Efficiency 33% Efficiency 33% Efficiency 25%  
MDA 20 MDA 20 MDA 200

Mfg. EBERLINE Mfg. NE.TECH Mfg. NE.TECH  
Model BC-4 Model ELECTRA Model ELECTRA  
Serial # 916 Serial # Serial #  
Cal Due 3-16-99 Cal Due Cal Due  
Bkg. 43 Bkg. Bkg.  
Efficiency 25% Efficiency Efficiency  
MDA 206 MDA MDA

Survey Type: CONTAMINATION

Building: 904

Location: TENT 11

Purpose: WEEKLY SURVEY

RWP #:

Date: 11-4-98 Time: 1400

RCT: Rick Muller-1 Rick Muller

Print name

Signature

RCT: / /

Print name

Signature

Emp. #

PRL #:

Comments:

## SURVEY RESULTS

REMOVABLE		DIRECT		REMOVABLE		DIRECT	
ALPHA	BETA	ALPHA	BETA	ALPHA	BETA	ALPHA	BETA
1. < 20	< 200			23.			
2. < 20	< 200			24.			
3. < 20	< 200			25.			
4. < 20	< 200			26.			
5. < 20	< 200			27.			
6. < 20	< 200			28.			
7. < 20	< 200			29.			
8. < 20	< 200			30.			
9. < 20	< 200			31.			
10. < 20	< 200			32.			
11. < 20	< 200			33.			
12. < 20	< 200			34.			
13. < 20	< 200			35.			
14. < 20	< 200			36.			
15. < 20	< 200			37.			
16.				38.			
17.				39.			
18.				40.			
19.				41.			
20.				42.			
21.				43.			
22.				44.			

Date Reviewed: 11/17/98

RS Supervision:

Print Name

Signature

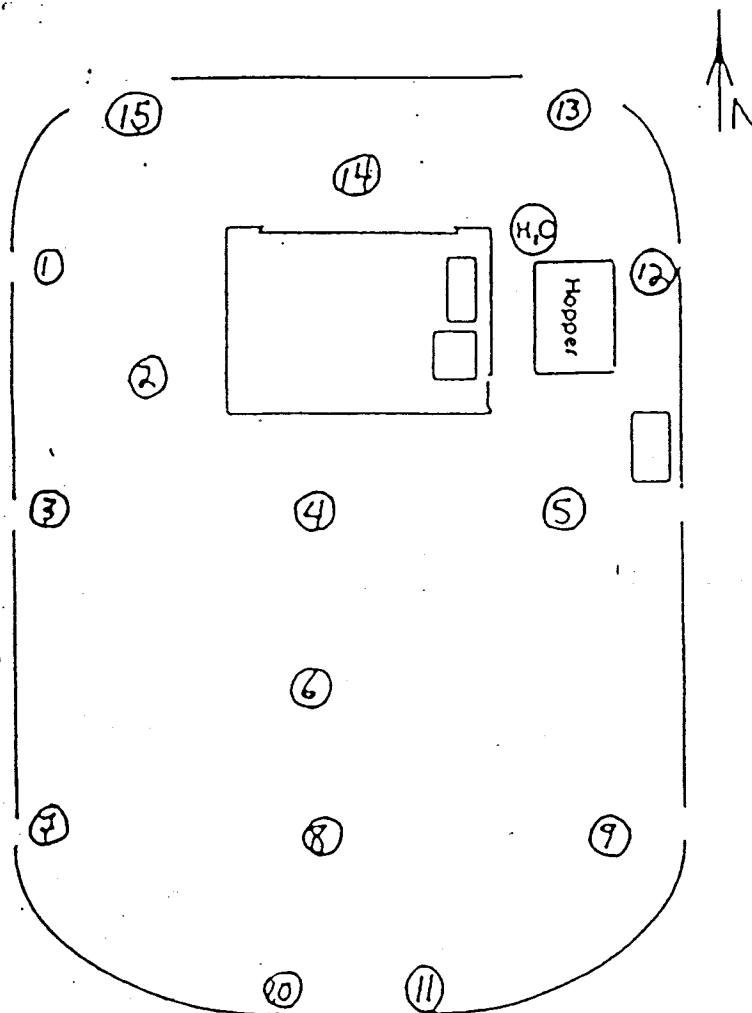
# ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## RADIOLOGICAL SAFETY

Drawing Showing Survey Points

Radiological Operations  
Area or Equipment Drawing Showing Survey Points

Tent 11



385

**ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE****INSTRUMENT DATA**

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model SAC-4	Model SAC-4	Model SAC-4
Serial # <u>824</u>	Serial # <u>795</u>	Serial # <u>BC916</u>
Cal Due <u>3-21-99</u>	Cal Due <u>3-16-99</u>	Cal Due <u>3-16-99</u>
Bkg. <u>0.0</u>	Bkg. <u>0.0</u>	Bkg. <u>41</u>
Efficiency <u>33%</u>	Efficiency <u>33%</u>	Efficiency <u>25%</u>
MDA <u>20dpm</u>	MDA <u>20dpm</u>	MDA <u>200dpm</u>

Survey Type: **CONTAMINATION**Building: 904  
Location: TENT 11  
Purpose: WEEKLY SURVEY  
RWP #: on 11-11-98Date: 11-11-98 Time: 1330RCT: Mohor Mung  
Print name Signature  
RCT: on 11-11-98  
Print name Signature Emp. #

Mfg. EBERLINE	Mfg. NE.TECH	Mfg. NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # <u>BC838</u>	Serial # <u>11-11-98</u>	Serial # <u>11-11-98</u>
Cal Due <u>1-9-99</u>	Cal Due <u>11-11-98</u>	Cal Due <u>11-11-98</u>
Bkg. <u>42</u>	Bkg. <u>11-11-98</u>	Bkg. <u>11-11-98</u>
Efficiency <u>25%</u>	Efficiency <u>11-11-98</u>	Efficiency <u>11-11-98</u>
MDA <u>200dpm</u>	MDA <u>11-11-98</u>	MDA <u>11-11-98</u>

PRL #: on 11-11-98

Comments:

**SURVEY RESULTS**

REMOVABLE		DIRECT		REMOVABLE		DIRECT	
ALPHA	BETA	ALPHA	BETA	ALPHA	BETA	ALPHA	BETA
1. <u>120</u>	<u>1200</u>	<u>11-11-98</u>		23.		<u>11-11-98</u>	
2. <u>120</u>	<u>1200</u>			24.			
3. <u>120</u>	<u>1200</u>			25.			
4. <u>120</u>	<u>1200</u>			26.			
5. <u>120</u>	<u>1200</u>			27.			
6. <u>120</u>	<u>1200</u>			28.			
7. <u>120</u>	<u>1200</u>			29.			
8. <u>120</u>	<u>1200</u>			30.			
9. <u>120</u>	<u>1200</u>			31.			
10. <u>120</u>	<u>1200</u>			32.			
11. <u>120</u>	<u>1200</u>			33.			
12. <u>120</u>	<u>1200</u>			34.			
13. <u>120</u>	<u>1200</u>			35.			
14. <u>120</u>	<u>1200</u>			36.			
15. <u>120</u>	<u>1200</u>			37.			
16.				38.			
17.				39.			
18.				40.			
19.				41.			
20.				42.			
21.				43.			
22.				44.			

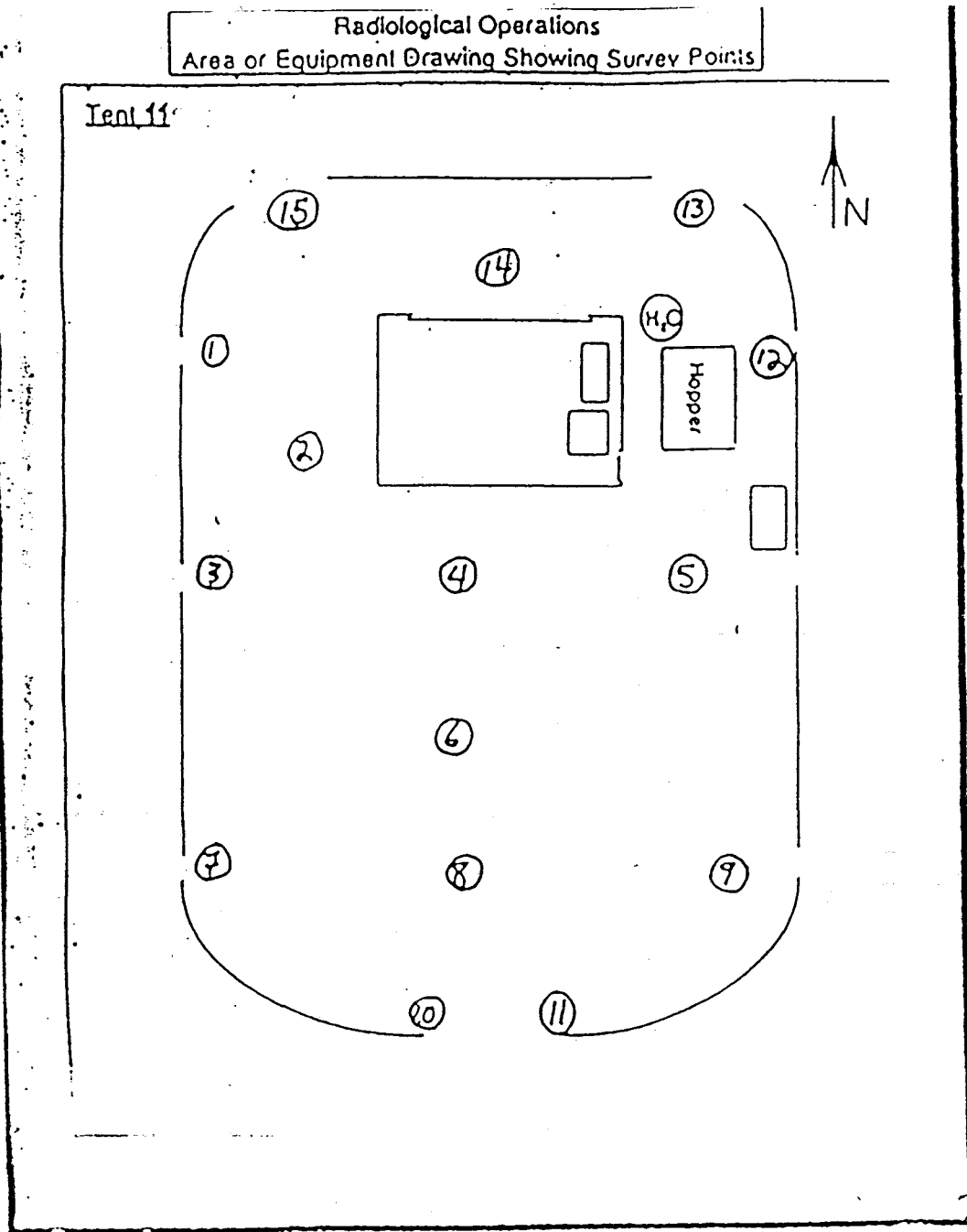
Date Reviewed: 11/17/98 RS Supervision: E. J. Ewell  
386 Print Name

Signature

**ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE**

**RADIOLOGICAL SAFETY**

Drawing Showing Survey Points





## ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model SAC-4	Model SAC-4	Model SAC-4
Serial # <u>824</u>	Serial # <u>795</u>	Serial # <u>916</u>
Cal Due <u>3-21-99</u>	Cal Due <u>3-16-99</u>	Cal Due <u>3-16-99</u>
Bkg. <u>0.0</u>	Bkg. <u>0.0</u>	Bkg. <u>43</u>
Efficiency <u>83%</u>	Efficiency <u>83%</u>	Efficiency <u>25%</u>
MDA <u>220</u>	MDA <u>220</u>	MDA <u>220</u>

Survey Type: CONTAMINATION

Building: 904  
 Location: TENT 11  
 Purpose: WEEKLY SURVEY

RWP #: \_\_\_\_\_

Date: 11-19-98 Time: 1100

RCT: Wmroz [Signature]  
 Print name Signature

RCT: an 11-19-98  
 Print name Signature Emp. #

Mfg. EBERLINE	Mfg. NE. TECH	Mfg. NE. TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # <u>838</u>	Serial # _____	Serial # _____
Cal Due <u>1-9-99</u>	Cal Due _____	Cal Due _____
Bkg. <u>39</u>	Bkg. _____	Bkg. _____
Efficiency <u>25%</u>	Efficiency _____	Efficiency _____
MDA <u>220</u>	MDA _____	MDA _____

PRL #: \_\_\_\_\_

Comments: \_\_\_\_\_

## SURVEY RESULTS

REMOVABLE		DIRECT		REMOVABLE		DIRECT	
ALPHA	BETA	ALPHA	BETA	ALPHA	BETA	ALPHA	BETA
1. <u>220</u>	<u>2200</u>			23.			
2. <u>220</u>	<u>2200</u>			24.			
3. <u>220</u>	<u>2200</u>			25.			
4. <u>220</u>	<u>2200</u>			26.			
5. <u>220</u>	<u>2200</u>			27.			
6. <u>220</u>	<u>2200</u>			28.			
7. <u>220</u>	<u>2200</u>			29.			
8. <u>220</u>	<u>2200</u>			30.			
9. <u>220</u>	<u>2200</u>			31.			
10. <u>220</u>	<u>2200</u>			32.			
11. <u>220</u>	<u>2200</u>			33.			
12. <u>220</u>	<u>2200</u>			34.			
13. <u>220</u>	<u>2200</u>			35.			
14. <u>220</u>	<u>2200</u>			36.			
15. <u>220</u>	<u>2200</u>			37.			
16.				38.			
17.				39.			
18.				40.			
19.				41.			
20.				42.			
21.				43.			
22.				44.			

Date Reviewed: 11/19/98 RS Supervision: J. [Signature]

Print Name

Signature

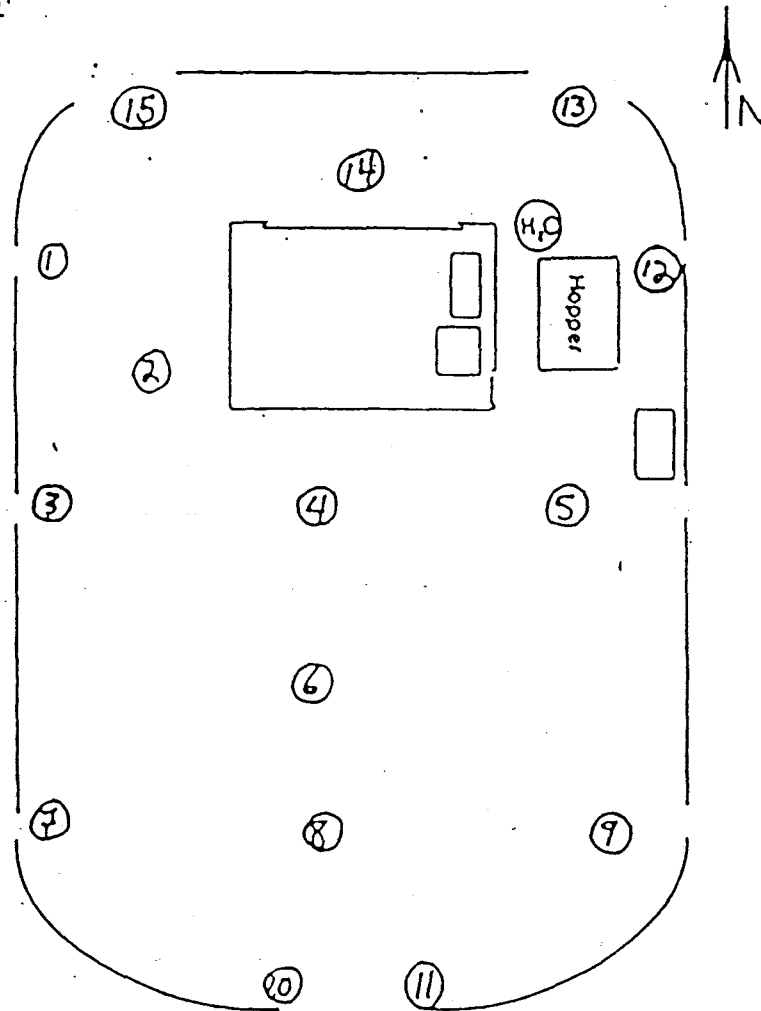
**ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE**

**RADIOLOGICAL SAFETY**

Drawing Showing Survey Points

Radiological Operations  
Area or Equipment Drawing Showing Survey Points

Tent 11



## INFORMATION ONLY

## ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model SAC-4	Model SAC-4	Model SAC-4
Serial # 824	Serial # 795	Serial # 916
Cal Due 3-21-99	Cal Due 3-16-99	Cal Due 3-16-99
Bkg. 0.1	Bkg. 0.0	Bkg. 4.3
Efficiency 33%	Efficiency 33%	Efficiency 25%
MDA 220	MDA 220	MDA 220
Mfg. EBERLINE	Mfg. NE. TECH	Mfg. NE. TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # 838	Serial #	Serial #
Cal Due 1-9-99	Cal Due	Cal Due
Bkg. 37	Bkg.	Bkg.
Efficiency 25%	Efficiency	Efficiency
MDA 220	MDA	MDA

## Survey Type: CONTAMINATION

Building: 904  
 Location: TENT 11  
 Purpose: WEEKLY SURVEY

RWP #: \_\_\_\_\_

Date: 11-23-98 Time: 1100

RCT: M. J. 402-1 M. J. 402-1  
 Print name Signature Emp. #

RCT: \_\_\_\_\_  
 Print name Signature Emp. #

PRL #: \_\_\_\_\_

Comments: \_\_\_\_\_

## SURVEY RESULTS

REMOVABLE		DIRECT		REMOVABLE		DIRECT	
ALPHA	BETA	ALPHA	BETA	ALPHA	BETA	ALPHA	BETA
1. 220	2200			23.			
2. 220	2200			24.			
3. 220	2200			25.			
4. 220	2200			26.			
5. 220	2200			27.			
6. 220	2200			28.			
7. 220	2200			29.			
8. 220	2200			30.			
9. 220	2200			31.			
10. 220	2200			32.			
11. 220	2200			33.			
12. 220	2200			34.			
13. 220	2200			35.			
14. 220	2200			36.			
15. 220	2200			37.			
16.				38.			
17.				39.			
18.				40.			
19.				41.			
20.				42.			
21.				43.			
22.				44.			

Date Reviewed: 11/30/98 RS Supervision: \_\_\_\_\_

Print Name

Signature

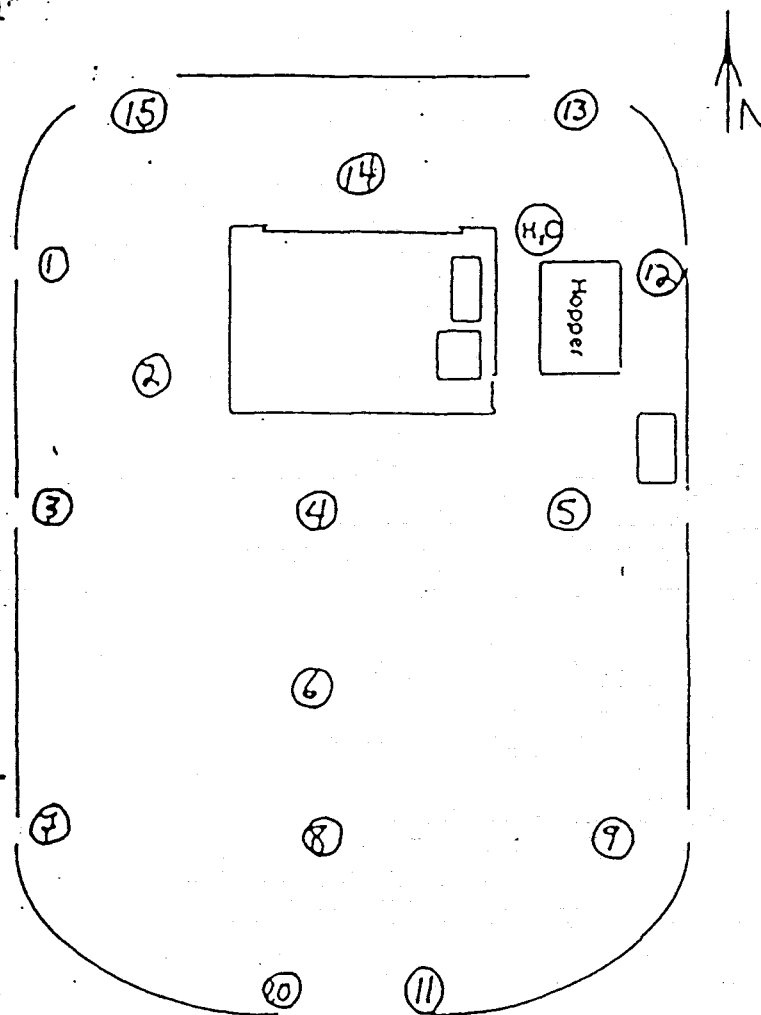
**ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE**

**RADIOLOGICAL SAFETY**

Drawing Showing Survey Points

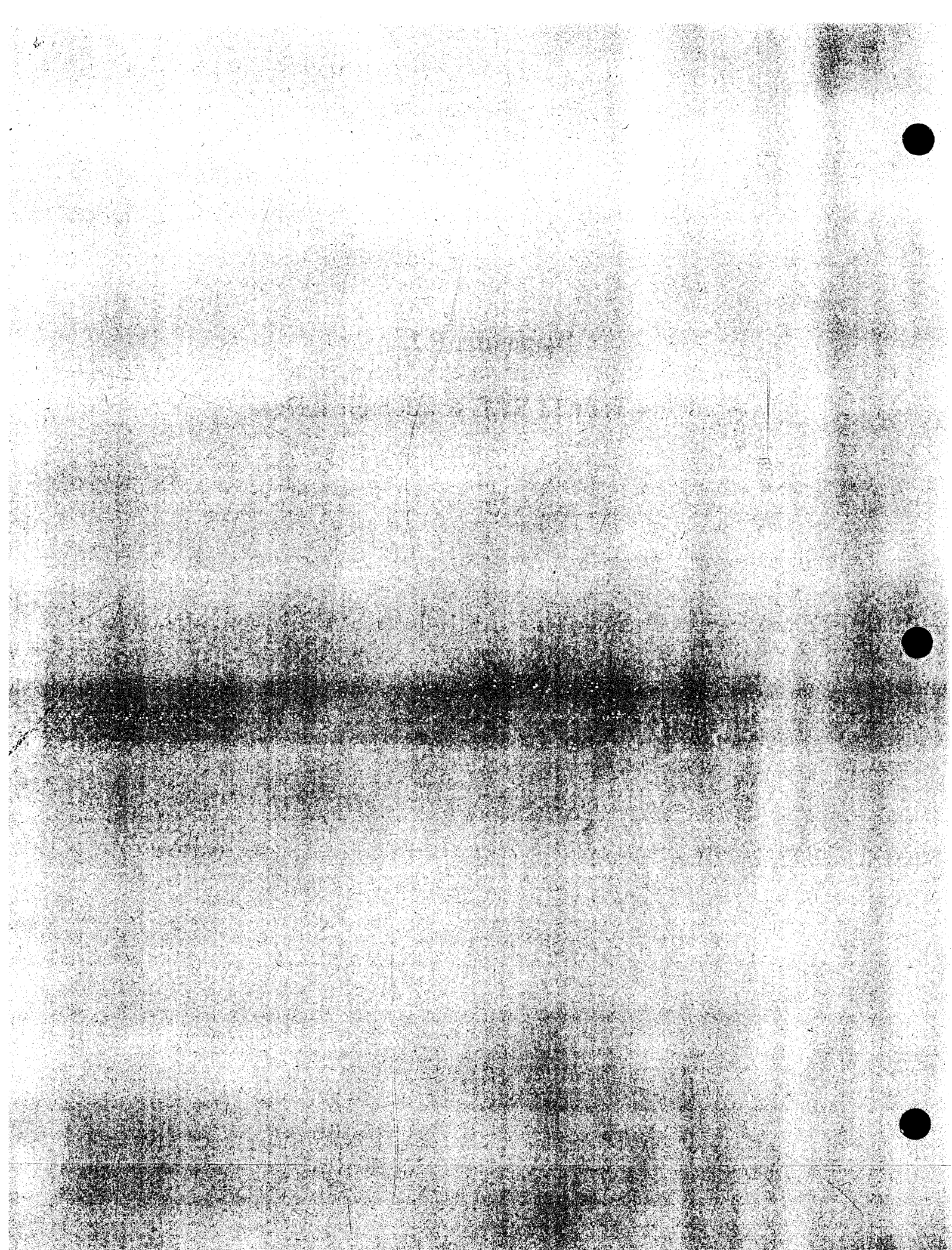
Radiological Operations  
Area or Equipment Drawing Showing Survey Points

Tent 11



## **Appendix F.2**

### **Pad 904 Tent 11 RLC Radiological Data**

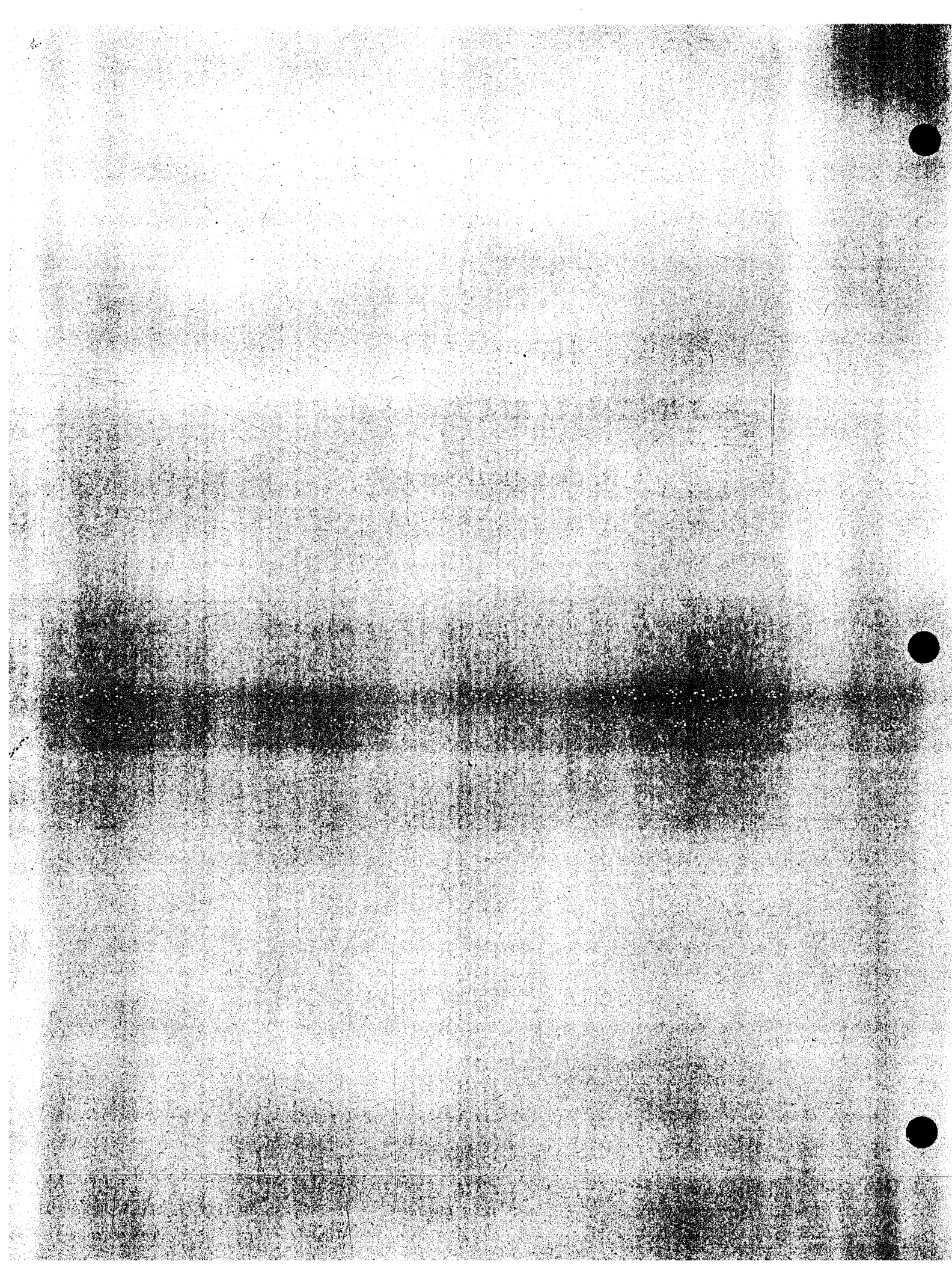




**Appendix F.2.1**

**Pad 904 Tent 11 RLC Radiological Data**

**Radiological Surveys**





# ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## RADIOLOGICAL SAFETY Drawing Showing Survey Points

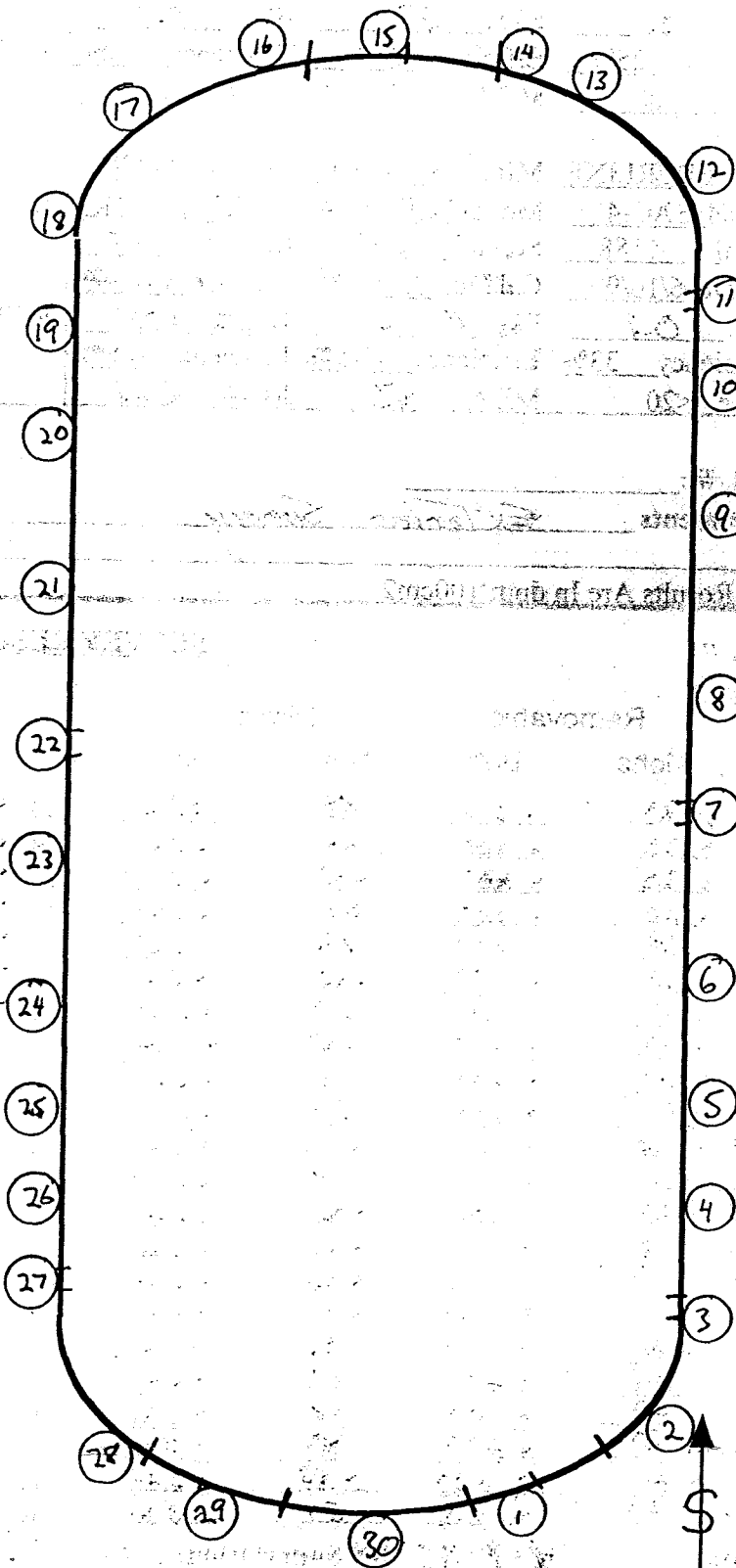
### Location

1. Door - C - 5'
2. # W2 C - 3'
3. Door W20/W19 C 8'
4. # W17/W18 - C - 3'
5. # W16/W15 - C - 4'
6. # W13/W12 - C - 3'
7. # Door W11/W10 C - 8'
8. # W9/W8 - C - 4'
9. # W7 5'
10. # W6/W5 - C - 4'
11. # Door W3/W2 - C - 8'
12. # W1 C - 6'
13. # 25 - C - 1'
14. # 26 - C - 4'
15. Door - C - 5'
16. # 28 - C - 3'
17. # E1 - 5'
18. # E2 - C - 2'
19. # E3/E4 - C - 4'
20. # E6 - 6'
21. # E8/E9 - C - 3'
22. Door E10/E11 C - 8'
23. # E12/E13 C - 6'
24. # E16 - C - 3'
25. # E17/E18 C - 1'
26. # E19 - 6'
27. Door - 3'
28. # E20 - C - 1'
29. Door - C - 5'
30. # 22 - C - 6'
- 31.
- 32.
- 33.
- 34.
- 35.
- 36.
- 37.
- 38.
- 39.
- 40.
- 41.
- 42.
- 43.
- 44.

# = Support ID

C = Canvas

' (ft) = height from ground



345

# ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## INSTRUMENT DATA

Mfg. <u>EBERLINE</u>	Mfg. <u>EBERLINE</u>	Mfg. <u>EBERLINE</u>
Model <u>BC-4</u>	Model <u>BC-4</u>	Model <u>SAC-4</u>
Serial # <u>838</u>	Serial # <u>874</u>	Serial # <u>959</u>
Cal Due <u>7/13/99</u>	Cal Due <u>6/7/99</u>	Cal Due <u>7/5/99</u>
Bkg. <u>41</u>	Bkg. <u>38</u>	Bkg. <u>0.0</u>
Efficiency <u>25%</u>	Efficiency <u>25%</u>	Efficiency <u>33%</u>
MDA <u>&lt;200</u>	MDA <u>&lt;200</u>	MDA <u>&lt;20</u>

Survey Type: Contamination Survey

Building: Tent # 11

Location: 904 Pad

Purpose: CHARACTERIZATION SURVEYS

RWP #: - NA -

Date: 04-06-99 Time: 15.30

Mfg. <u>EBERLINE</u>	Mfg. <u>NE TECH</u>	Mfg. <u>NE TECH</u>
Model <u>SAC-4</u>	Model <u>ELECTRA</u>	Model <u>ELECTRA</u>
Serial # <u>1188</u>	Serial # <u>2343</u>	Serial # <u>2343</u>
Cal Due <u>6/16/99</u>	Cal Due <u>8-12-99</u>	Cal Due <u>8-12-99</u>
Bkg. <u>0.1</u>	Bkg. <u>0.2</u>	Bkg. <u>505</u>
Efficiency <u>33%</u>	Efficiency <u>22.0%</u>	Efficiency <u>32.0%</u>
MDA <u>&lt;20</u>	MDA <u>43</u>	MDA <u>321</u>

RCT: Rex Snyder

Print name

[Signature]

Signature

Emp. #

RCT: AT

Print name

Signature

Emp. #

# COPY

PRL #: \_\_\_\_\_

Comments: Exterior Survey

All Results Are In dpm/100cm<sup>2</sup>

## SURVEY RESULTS

Removable				Direct				Removable				Direct			
Alpha		Beta		Alpha		Beta		Alpha		Beta		Alpha		Beta	
1.	< 20	< 200	84	< 321	23.	< 20	< 200	60	< 321						
2.	< 20	< 200	66	< 321	24.	< 20	< 200	< 43	< 321						
3.	< 20	< 200	< 43	< 321	25.	< 20	< 200	< 43	< 321						
4.	< 20	< 200	54	< 321	26.	< 20	< 200	60	< 321						
5.	< 20	< 200	72	435	27.	< 20	< 200	< 43	< 321						
6.	< 20	< 200	< 43	< 321	28.	< 20	< 200	< 43	< 321						
7.	< 20	< 200	60	< 321	29.	< 20	< 200	< 43	< 321						
8.	< 20	< 200	< 43	< 321	30.	< 20	< 200	78	< 321						
9.	< 20	< 200	54	< 321	31.										
10.	< 20	< 200	90	< 321	32.										
11.	< 20	< 200	< 43	< 321	33.										
12.	< 20	< 200	48	< 321	34.										
13.	< 20	< 200	< 43	< 321	35.										
14.	< 20	< 200	< 43	< 321	36.										
15.	< 20	< 200	< 43	< 321	37.										
16.	< 20	< 200	< 43	< 321	38.										
17.	< 20	< 200	< 43	< 321	39.										
18.	< 20	< 200	48	< 321	40.										
19.	< 20	< 200	48	< 321	41.										
20.	< 20	< 200	60	< 321	42.										
21.	< 20	< 200	< 43	< 321	43.										
22.	< 20	< 200	54	< 321	44.										

Date: 3-4

4-8-99

RS Supervision:

G E OSBURN

Print Name

[Signature]

Signature

Emp. #

# ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model BC-4	Model BC-4	Model SAC-4
Serial # 838	Serial # 874	Serial # 959
Cal Due 7/13/99	Cal Due 6/7/99	Cal Due 7/5/99
Bkg. 39	Bkg. 38	Bkg. 0.2
Efficiency 25%	Efficiency 25%	Efficiency 33%
MDA <200	MDA <200	MDA <20

Mfg. EBERLINE	Mfg. NE TECH	Mfg. NE TECH
Model SAC-4	Model ELECTRA	Model ELECTRA
Serial # 1188	Serial # 1682	Serial # 1682
Cal Due 6/16/99	Cal Due 8-12-99	Cal Due 8-12-99
Bkg. 0.2	Bkg. 3	Bkg. 496
Efficiency 33%	Efficiency 22.3%	Efficiency 31.1%
MDA <20	MDA 79	MDA 318

Survey Type: Contamination Survey

Building: TENT # 11

Location: 904 PAD

Purpose: CHARACTERIZATION SURVEYS

RWP #: NA

Date: 04-27-99 Time: 1600

RCT: Rex Snyder 1 [Redacted]  
Print name Sig

RCT: N 1 A 1  
Print name Signature Emp. #

PRL #:

Comments: Ceilings - Walls + Building Systems > 2 meters

All Results Are In dpm/100cm2

## SURVEY RESULTS

Removable				Direct				Removable				Direct			
Alpha	Beta	Alpha	Beta	Alpha	Beta	Alpha	Beta	Alpha	Beta	Alpha	Beta	Alpha	Beta	Alpha	Beta
1. < 20	< 200	< 49	< 318	23. < 20	< 200	< 49	< 318	45. < 20	< 200	< 49	< 318	23. < 20	< 200	< 49	< 318
2. < 20	< 200	< 49	< 318	24. < 20	< 200	< 49	< 318	25. < 20	< 200	< 49	< 318	26. < 20	< 200	< 49	< 318
3. < 20	< 200	< 49	< 318	25. < 20	< 200	< 49	< 318	26. < 20	< 200	< 49	< 318	27. < 20	< 200	< 49	< 318
4. < 20	< 200	< 49	< 318	26. < 20	< 200	< 49	< 318	27. < 20	< 200	< 49	< 318	28. < 20	< 200	< 49	< 318
5. < 20	< 200	< 49	< 318	27. < 20	< 200	< 49	< 318	28. < 20	< 200	< 49	< 318	29. < 20	< 200	< 49	< 318
6. < 20	< 200	< 49	< 318	28. < 20	< 200	< 49	< 318	29. < 20	< 200	< 49	< 318	30. < 20	< 200	< 49	< 318
7. < 20	< 200	< 49	< 318	29. < 20	< 200	< 49	< 318	30. < 20	< 200	< 49	< 318	31. < 20	< 200	< 49	< 318
8. < 20	< 200	< 49	< 318	30. < 20	< 200	< 49	< 318	31. < 20	< 200	< 49	< 318	32. < 20	< 200	< 49	< 318
9. < 20	< 200	< 49	< 318	31. < 20	< 200	< 49	< 318	32. < 20	< 200	< 49	< 318	33. < 20	< 200	< 49	< 318
10. < 20	< 200	< 49	< 318	32. < 20	< 200	< 49	< 318	33. < 20	< 200	< 49	< 318	34. < 20	< 200	< 49	< 318
11. < 20	< 200	< 49	< 318	33. < 20	< 200	< 49	< 318	34. < 20	< 200	< 49	< 318	35. < 20	< 200	< 49	< 318
12. < 20	< 200	< 49	< 318	34. < 20	< 200	< 49	< 318	35. < 20	< 200	< 49	< 318	36. < 20	< 200	< 49	< 318
13. < 20	< 200	< 49	< 318	35. < 20	< 200	< 49	< 318	36. < 20	< 200	< 49	< 318	37. < 20	< 200	< 49	< 318
14. < 20	< 200	< 49	< 318	36. < 20	< 200	< 49	< 318	37. < 20	< 200	< 49	< 318	38. < 20	< 200	< 49	< 318
15. < 20	< 200	< 49	< 318	37. < 20	< 200	< 49	< 318	38. < 20	< 200	< 49	< 318	39. < 20	< 200	< 49	< 318
16. < 20	< 200	< 49	< 318	38. < 20	< 200	< 49	< 318	39. < 20	< 200	< 49	< 318	40. < 20	< 200	< 49	< 318
17. < 20	< 200	< 49	< 318	39. < 20	< 200	< 49	< 318	40. < 20	< 200	< 49	< 318	41. < 20	< 200	< 49	< 318
18. < 20	< 200	< 49	< 318	40. < 20	< 200	< 49	< 318	41. < 20	< 200	< 49	< 318	42. < 20	< 200	< 49	< 318
19. < 20	< 200	< 49	< 318	41. < 20	< 200	< 49	< 318	42. < 20	< 200	< 49	< 318	43. < 20	< 200	< 49	< 318
20. < 20	< 200	< 49	< 318	42. < 20	< 200	< 49	< 318	43. < 20	< 200	< 49	< 318	44. < 20	< 200	< 49	< 318
21. < 20	< 200	< 49	< 318	43. < 20	< 200	< 49	< 318	44. < 20	< 200	< 49	< 318				
22. < 20	< 200	< 49	< 318	44. < 20	< 200	< 49	< 318								

Date: 4/28/99

RS Supervision: LNCoper

394

Print Name

Signature

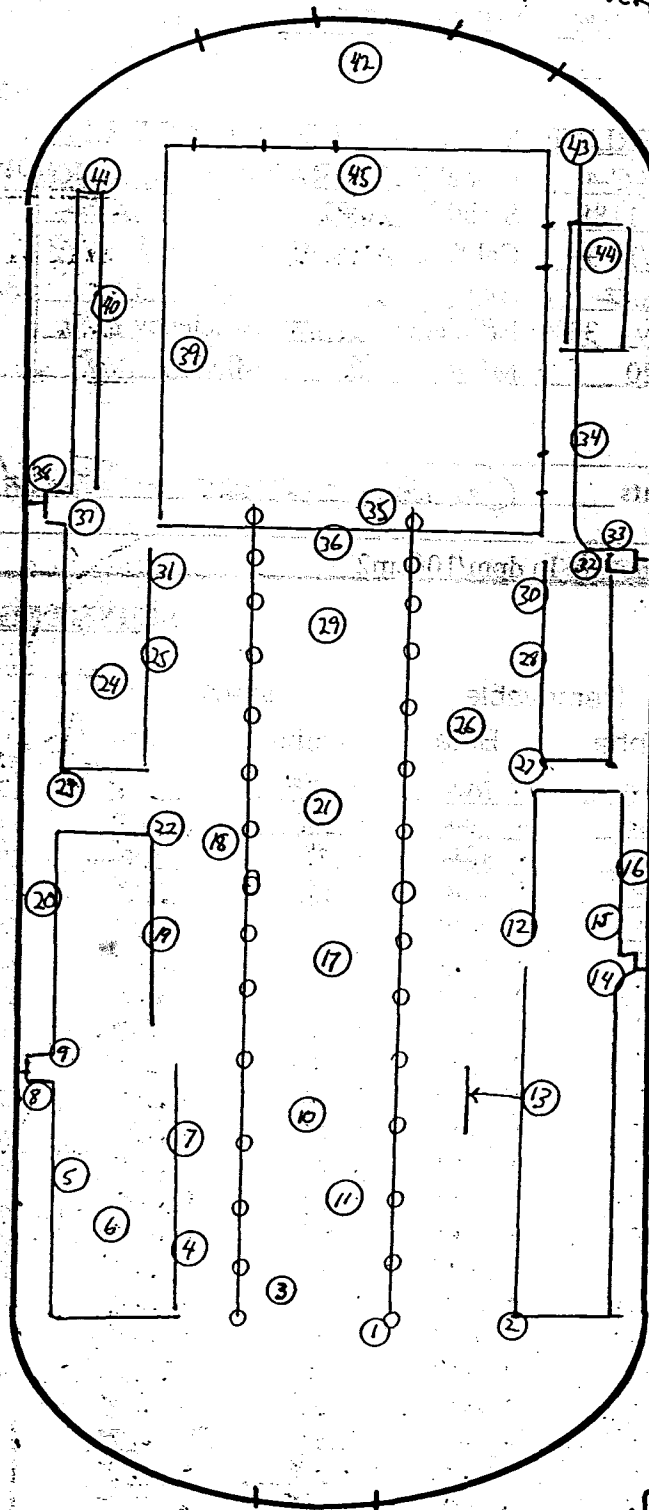
# ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SIT

## RADIOLOGICAL SAFETY Drawing Showing Survey Points

### Location

1. Light
2. HEAT E1
3. Center Support
4. 11-18 Burner
5. Heat W4
6. Canvas W3
7. Heat W4
8. Pipe 10'
9. Heat
10. Speaker
11. Canvas E4 20'
12. 11-3 Burner
13. Center Support E6
14. Pipe 10'
15. Heat E6
16. Canvas 10'
17. Top tent Heat
18. Center Support W8
19. 11-15 Burner
20. Canvas 12' W8
21. Speakers
22. HEAT
23. Heat
24. Canvas W11
25. Heat E11
26. Center Support E10
27. Heat
28. 11-14 Burner
29. Speaker
30. 11-6 Burner
31. 11-3 Burner
32. Canvas E14
33. Pipe 12'
34. Heat E17
35. Permacor Top
36. speaker
37. Heat
38. Pipe 10'
39. Permacor Top
40. Heat W18
41. Heat W 20
42. Canvas 20' 22/23
43. Heat E 20
44. Hopper
45. Top Permacor

Tent #11 Ceiling-Walls + Building Systems  
7.2 meter



# ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## INSTRUMENT DATA

Mfg. EBERLINE Mfg. EBERLINE Mfg. EBERLINE			Survey Type: Contamination Survey
Model BC-4	Model BC-4	Model SAC-4	Building: TENT # //
Serial # 838	Serial # 874	Serial # 959	Location: 904 PAD
Cal Due 7/13/99	Cal Due 6/7/99	Cal Due 7/5/99	Purpose: CHARACTERIZATION SURVEYS
Bkg. 44	Bkg. 40	Bkg. 0.1	RWP #: NA
Efficiency 25%	Efficiency 25%	Efficiency 33%	Date: 05-03-99 Time: 08:20
MDA <200	MDA <200	MDA <20	
Mfg. EBERLINE Mfg. NE TECH Mfg. NE TECH			
Model SAC-4	Model ELECTRA	Model ELECTRA	RCT: Rex Snyder
Serial # 1188	Serial # 1682	Serial # 1682	Print name Signature
Cal Due 6/16/99	Cal Due 9-12-99	Cal Due 8-12-99	
Bkg. 0.3	Bkg. 1	Bkg. 515	RCT: N I
Efficiency 33%	Efficiency 21.3%	Efficiency 361%	Print name Signature Emp. #
MDA <20	MDA 34	MDA 324	

PRL #:

Comments: Survey locations on Floors + Wells < 2 meters + scan 1 meter<sup>2</sup> at all locations

All Results Are In dpm/100cm<sup>2</sup>

## SURVEY RESULTS

Removable				Direct			
Alpha	Beta	Alpha	Beta	Alpha	Beta	Alpha	Beta
1. < 20	< 200	< 34	< 324	23. < 20	< 200	< 34	975
2. < 20	< 200	< 34	< 324	24. < 20	< 200	< 34	1011
3. < 20	< 200	< 34	< 324	25. < 20	< 200	54	831
4. < 20	< 200	< 34	< 324	26. < 20	< 200	< 34	1194
5. < 20	< 200	< 34	< 324	27. < 20	< 200	< 34	804
6. < 20	< 200	< 34	< 324	28. < 20	< 200	< 34	882
7. < 20	< 200	< 34	< 324	29. < 20	< 200	< 34	936
8. < 20	< 200	< 34	< 324	30. < 20	< 200	< 34	864
9. < 20	< 200	< 34	< 324	31.			
10. < 20	< 200	< 34	< 324	32.			
11. < 20	< 200	< 34	945	33.			
12. < 20	< 200	< 34	951	34.			
13. < 20	< 200	< 34	993	35.			
14. < 20	< 200	< 34	1095	36.			
15. < 20	< 200	< 34	1179	37.			
16. < 20	< 200	< 34	1122	38.			
17. < 20	< 200	< 34	945	39.			
18. < 20	< 200	< 34	927	40.			
19. < 20	< 200	42	1005	41.			
20. < 20	< 200	< 34	957	42.			
21. < 20	< 200	< 34	780	43.			
22. < 20	< 200	< 34	1329	44.			

Date

5/3/99

RS Supervision:

N Cooper

Print Name

Signature

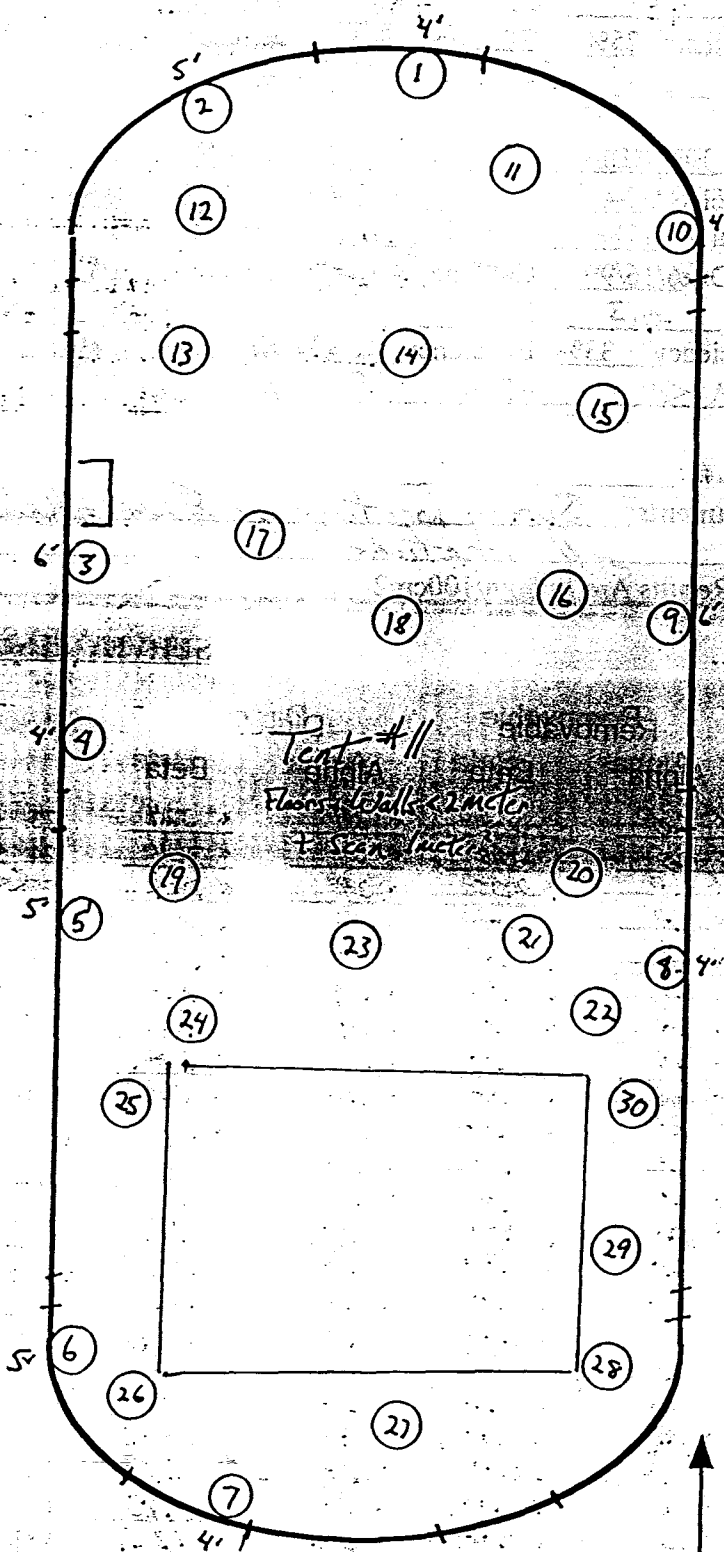
# ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## RADIOLOGICAL SAFETY

Drawing Showing Survey Points

### Location

1. Door C 4'
2. 28 C 5'
3. E1 C 4'
4. E9 C 4'
5. E12 C 5'
6. E18 C 5'
7. Door C 4'
8. W14 C 4'
9. W9 C 6'
10. W2 C 4'
11. F 25 15'
12. F E1/28 20'
13. F E4 8'
14. F W4 30'
15. F W6 15'
16. E8 F 20'
17. F W9 20'
18. F W10 Center
19. F E12/E11 4'
20. F E13 15'
21. F W13 20'
22. F W15 15'
23. F W15 30'
24. F E15/E16 20'
25. F E17 10'
26. F Center
27. F W20 10'
28. F W18 15'
29. W F 17 15'
30. F W17 15'
- 31.
- 32.
- 33.
- 34.
- 35.
- 36.
- 37.
- 38.
- 39.
- 40.
- 41.
- 42.
- 43.
- 44.



C = Canvas

399

## ROCKY PLATS ENVIRONMENTAL TECHNOLOGY SITE

## INSRUMENT DATA

Mfg. Eberline Mfg. Eberline Mfg. Eberline  
 Model SAC 4 Model SAC 4 Model RC 4  
 Serial# 959 Serial# 1188 Serial# 838  
 Cal Due 7-5-99 Cal Due 6-16-99 Cal Due 7-13-99  
 Bkg. 0.2 Bkg. 0.0 Bkg. 45  
 Efficiency 33% Efficiency 33% Efficiency 25%  
 MDA 20 MDA 20 MDA 200

Mfg. Eberline Mfg. NE Tech Mfg. NE Tech  
 Model RC-4 Model Electra Model Electra  
 Serial# 874 Serial# 2343 Serial# 2343  
 Cal Due 6-7-99 Cal Due 8-12-99 Cal Due 8-12-99  
 Bkg. 40 Bkg. 0.3 Bkg. 484  
 Efficiency 25% Efficiency 22.0% Efficiency 32.0%  
 MDA 200 MDA 49 MDA 315

Survey Type: Contamination SurveyBuilding: Tent # 11 PermaconLocation: 904 PadPurpose: Characterization SurveyRWP #: NADate: 04-07-99Time: 1600RCT: Rex Snyder

Print name

Signature

RCT: NA

Print name

Signature

Emp. #

COPY

PRL #:

Comments: Exterior Survey Could not access roof top

## SURVEY RESULTS

Swipe #	Location/Description Results in DPM/100CM <sup>2</sup>	Removable		Total		Swipe #	Location/Description Results in DPM/100CM <sup>2</sup>	Removable		Total	
		Alpha	Beta	Alpha	Beta			Alpha	Beta	Alpha	Beta
1	wall 3'	< 20	< 200	< 49	< 315	16	wall 3'	< 20	< 200	54	< 315
2	door 4'	< 20	< 200	< 49	< 315	17	wall + ledge 7'	< 20	< 200	< 49	< 315
3	door 8'	< 20	< 200	< 49	< 315	18	wall 8'	< 20	< 200	< 49	< 315
4	window + ledge 4'	< 20	< 200	< 49	< 315	19	Pipes 2'	< 20	< 200	< 49	< 315
5	Window + above 7'	< 20	< 200	< 49	< 315	20	wall + ledge 5'	< 20	< 200	< 49	< 315
6	wall + ledge 8'	< 20	< 200	< 49	< 315	21	wall 8'	< 20	< 200	< 49	< 315
7	wall 7'	< 20	< 200	< 49	< 315	22	wall 4'	< 20	< 200	< 49	< 315
8	wall 6'	< 20	< 200	< 49	< 315	23	wall 7'	< 20	< 200	< 49	< 315
9	wall 8'	< 20	< 200	< 49	< 315	24	wall 3'	< 20	< 200	< 49	< 315
10	Door 5'	< 20	< 200	< 49	< 315	25	Window above 7'	< 20	< 200	< 49	< 315
11	wall 4' + ledge	< 20	< 200	< 49	< 315	26	wall 8'	< 20	< 200	< 49	< 315
12	wall 8'	< 20	< 200	< 49	< 315	27	wall + ledge 5'	< 20	< 200	< 49	< 315
13	wall 3'	< 20	< 200	< 49	< 315	28	wall 4'	< 20	< 200	< 49	< 315
14	Above door 8'	< 20	< 200	< 49	< 315	29	Vent 8'	< 20	< 200	< 49	< 315
15	wall + ledge 7'	< 20	< 200	< 49	< 315	30	wall 3'	< 20	< 200	< 49	< 315

Date Reviewed: 4-8-99 RS Supervision:

G. E. OSBURN

Print Name

Signature

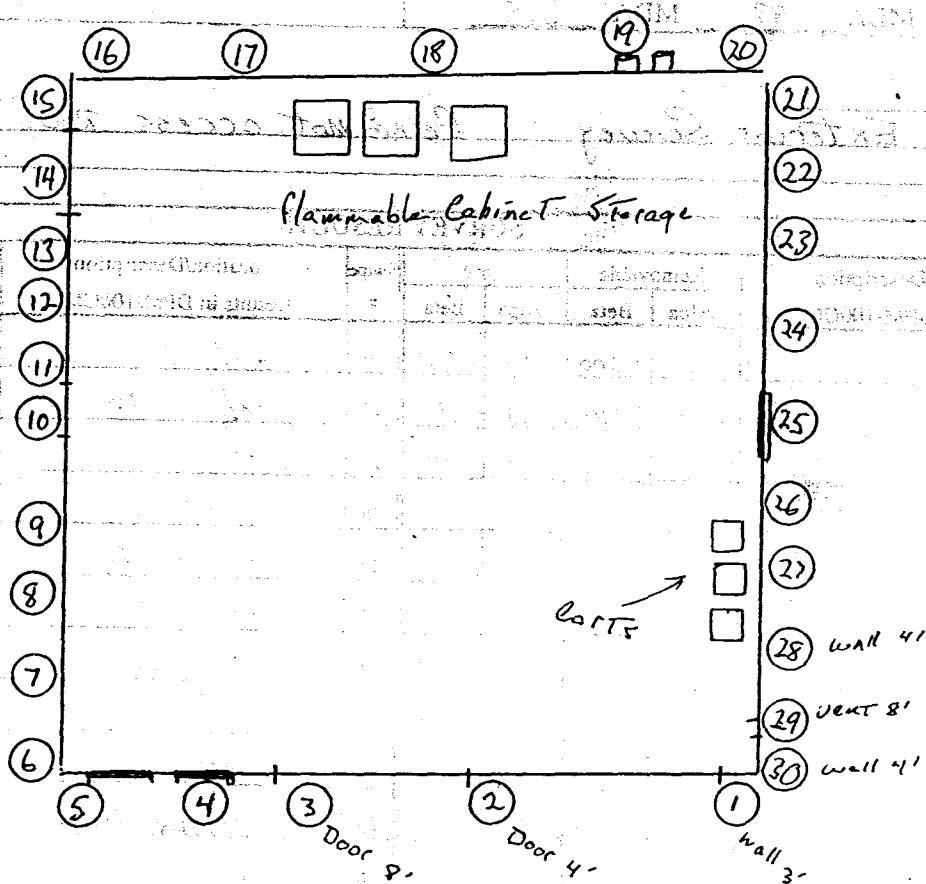


ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

Permacon Building  
in Tent # 11  
904 Pad



401



# ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE	Survey Type: Contamination Survey
Model BC-4	Model BC-4	Model SAC-4	Building: TENT # 11 Permacor
Serial # 838	Serial # 874	Serial # 959	Location: 904 PAD
Cal Due 7/13/99	Cal Due 6/7/99	Cal Due 7/5/99	Purpose: CHARACTERIZATION SURVEYS
Bkg. 39	Bkg. 38	Bkg. 0.2	RWP #: NA
Efficiency 25%	Efficiency 25%	Efficiency 33%	Date: 04-27-99 Time: 1500
MDA <200	MDA <200	MDA <20	

Mfg. EBERLINE	Mfg. NE TECH	Mfg. NE TECH	RCT: Rex Snyder	Signature: [Redacted]
Model SAC-4	Model ELECTRA	Model ELECTRA	Print name	
Serial # 1188	Serial # 1682	Serial # 1682		
Cal Due 6/16/99	Cal Due 8-12-99	Cal Due 8-12-99	RCT: N	Signature: A
Bkg. 0.2	Bkg. 3	Bkg. 496	Print name	Signature
Efficiency 33%	Efficiency 22.2%	Efficiency 31.1%		Emp. #
MDA <20	MDA 49	MDA 318		

PRL #:

Comments: Permacor Survey Ceiling + walls > 2 meters + walls < 2 meters  
1 meter scan on wall < 2 meter points

All Results Are In dpm/100cm2

## SURVEY RESULTS

Removable		Direct		Removable		Direct	
Alpha	Beta	Alpha	Beta	Alpha	Beta	Alpha	Beta
1. < 20	< 200	< 49	< 318	23. < 20	< 200	< 49	< 318
2. < 20	< 200	< 49	< 318	24. < 20	< 200	< 49	< 318
3. < 20	< 200	< 49	< 318	25. < 20	< 200	< 49	< 318
4. < 20	< 200	< 49	< 318	26. < 20	< 200	< 49	< 318
5. < 20	< 200	< 49	< 318	27. < 20	< 200	< 49	< 318
6. < 20	< 200	< 49	< 318	28. < 20	< 200	< 49	< 318
7. < 20	< 200	< 49	< 318	29. < 20	< 200	< 49	< 318
8. < 20	< 200	< 49	< 318	30. < 20	< 200	< 49	< 318
9. < 20	< 200	< 49	< 318	31. < 20	< 200	< 49	< 318
10. < 20	< 200	< 49	< 318	32.			
11. < 20	< 200	< 49	< 318	33.			
12. < 20	< 200	< 49	< 318	34.			
13. < 20	< 200	< 49	< 318	35.			
14. < 20	< 200	< 49	< 318	36.			
15. < 20	< 200	< 49	< 318	37.			
16. < 20	< 200	< 49	< 318	38.			
17. < 20	< 200	< 49	< 318	39.			
18. < 20	< 200	< 49	< 318	40.			
19. < 20	< 200	< 49	< 318	41.			
20. < 20	< 200	< 49	< 318	42.			
21. < 20	< 200	< 49	< 318	43.			
22. < 20	< 200	< 49	< 318	44.			

Date

4/28/99

RS Supervision:

LN Cooper

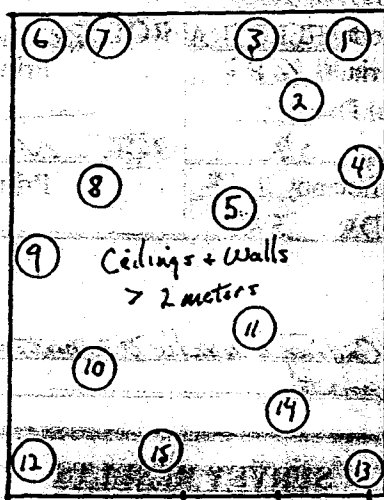
1 [Redacted]

# ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## RADIOLOGICAL SAFETY

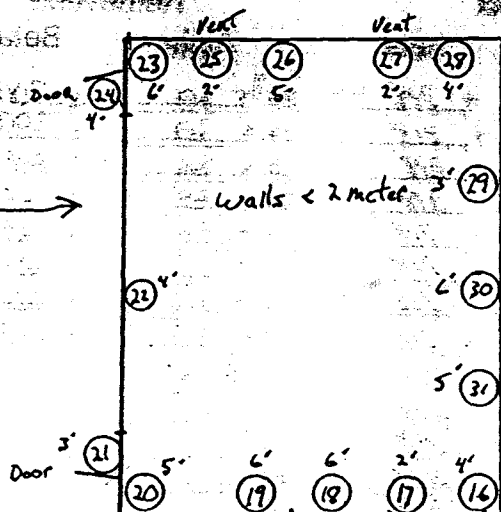
Drawing Showing Survey Points

Ceiling  
Map



1. Speaker
2. Ceiling
3. Wall Vent 20'
4. Wall 18'
5. Ceiling
6. Wall Vent 20'
7. Wall 15'
8. Ceiling
9. Wall 12'
10. Ceiling
11. Ceiling
12. Wall 12'
13. Wall 20'
14. Ceiling
15. Ceiling

Wall Map



#16 - 31 walls < 2 meter



403

# ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model BC-4	Model BC-4	Model SAC-4
Serial # 838	Serial # 874	Serial # 959
Cal Due 7/13/99	Cal Due 6/7/99	Cal Due 7/5/99
Bkg. 39	Bkg. 38	Bkg. 0.2
Efficiency 25%	Efficiency 25%	Efficiency 33%
MDA <200	MDA <200	MDA <20

Survey Type: Contamination Survey

Building: TENT # 11 Permacon

Location: 904 PAD

Purpose: CHARACTERIZATION SURVEYS

RWP #: NA

Date: 04-29-99 Time: 1000

Mfg. EBERLINE	Mfg. NE TECH	Mfg. NE TECH
Model SAC-4	Model ELECTRA	Model ELECTRA
Serial # 1188	Serial # 1680	Serial # 1680
Cal Due 6/16/99	Cal Due 8-10-99	Cal Due 8-10-99
Bkg. 0.2	Bkg. 6	Bkg. 438
Efficiency 33%	Efficiency 22.9%	Efficiency 34.7%
MDA <20	MDA 63	MDA 300

RCT: Rex Snyder / R. Snyder

Print name

Signature

RCT:

Print name

Signature

Emp. #

PRL #:

Comments: Permacon Survey Points on Floor + 1 meter<sup>2</sup> scan at all points

All Results Are In dpm/100cm<sup>2</sup>

## SURVEY RESULTS

Removable		Direct		Removable		Direct	
Alpha	Beta	Alpha	Beta	Alpha	Beta	Alpha	Beta
1. < 20	< 200	< 63	< 300	23. /			
2. < 20	< 200	< 63	< 300	24. /			
3. < 20	< 200	< 63	< 300	25. /			
4. < 20	< 200	< 63	336	26. /			
5. < 20	< 200	< 63	< 300	27. /			
6. < 20	< 200	< 63	< 300	28. /			
7. < 20	< 200	< 63	366	29. /			
8. < 20	< 200	< 63	< 300	30. /			
9. < 20	< 200	< 63	< 300	31. /			
10. < 20	< 200	< 63	< 300	32. /			
11. < 20	< 200	< 63	414	33. /			
12. < 20	< 200	< 63	< 300	34. /			
13. < 20	< 200	< 63	< 300	35. /			
14. < 20	< 200	< 63	< 300	36. /			
15. /				37. /			
16. /				38. /			
17. /				39. /			
18. /				40. /			
19. /				41. /			
20. /				42. /			
21. /				43. /			
22. /				44. /			

Date

4/29/99

RS Supervision:

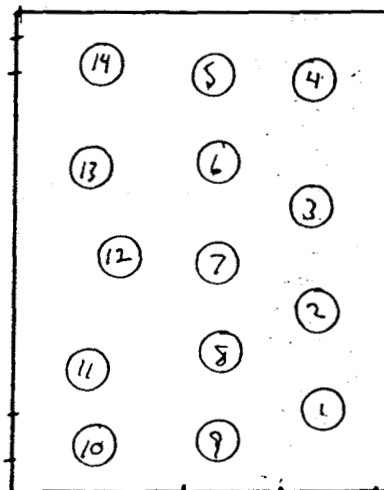
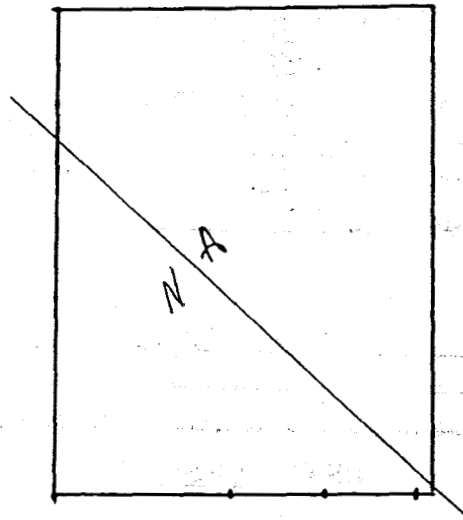
Print Name

Signature

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points



# 1 to 14 = Floor

Floor Map



405

## **Appendix F.3**

### **Pad 904 Tent 11 Historical Chemical Data**

## **Appendix F.3.1**

### **Pad 904 Tent 11 Historical Chemical Data**

#### **Beryllium**

## **Appendix F.3.1.1**

### **Pad 904 Tent 11 Historical Chemical Data**

#### **Beryllium**

#### **Sample Locations**

## Beryllium Characterization Program

Coordinate Sheet Number: 114

Sample Locations Specification

Building Number: 114200

Room Number: Tent 11

Room Dimensions:

East/West: 60 ft.

North/South: 335 ft.

Sample Number	Generated Random Numbers		Sample Number	Corresponding Random Sample Location Coordinates (East/West, North/South)		Generated Random Numbers	Corresponding Random Sample Location Coordinates (East/West, North/South)	
	E/W	N/S						
1	0.619	0.682	26	( 37 , 228 )	( 60 , 84 )	0.992	0.250	( 60 , 84 )
2	0.091	0.823	27	( 5 , 276 )	( 21 , 42 )	0.346	0.124	( 21 , 42 )
3	0.196	0.235	28	( 12 , 99 )	( 26 , 202 )	0.426	0.604	( 26 , 202 )
4	0.858	0.149	29	( 51 , 50 )	( 43 , 267 )	0.711	0.798	( 43 , 267 )
5	0.520	0.539	30	( 31 , 32180 )	( 39 , 97 )	0.646	0.290	( 39 , 97 )
6	0.515	0.106	31	( 31 , 36 )	( 3 , 71 )	0.048	0.212	( 3 , 71 )
7	0.115	0.404	32	( 7 , 135 )	( 2 , 307 )	0.028	0.917	( 2 , 307 )
8	0.413	0.836	33	( 25 , 335 )	( 43 , 177 )	0.718	0.528	( 43 , 177 )
9	0.932	0.940	34	( 56 , 315 )	( 36 , 72 )	0.601	0.214	( 36 , 72 )
10	0.814	0.354	35	( 49 , 119 )	( 26 , 5 )	0.433	0.014	( 26 , 5 )
11	0.200	0.017	36	( 12 , 6 )	( 18 , 274 )	0.305	0.817	( 18 , 274 )
12	0.310	0.611	37	( 6 , 205 )	( 31 , 280 )	0.519	0.837	( 31 , 280 )
13	0.878	0.648	38	( 53 , 217 )	( 33 , 161 )	0.551	0.482	( 33 , 161 )
14	0.641	0.423	39	( 38 , 142 )	( 16 , 21 )	0.263	0.062	( 16 , 21 )
15	0.083	0.111	40	( 5 , 37 )	( 4 , 174 )	0.070	0.518	( 4 , 174 )
16	0.203	0.509	41	( 12 , 171 )	( 45 , 222 )	0.743	0.664	( 45 , 222 )
17	0.662	0.989	42	( 40 , 331 )	( 30 , 93 )	0.496	0.277	( 30 , 93 )
18	0.659	0.147	43	( 40 , 47 )	( 4 , 113 )	0.072	0.336	( 4 , 113 )
19	0.419	0.411	44	( 25 , 138 )	( 1 , 273 )	0.013	0.816	( 1 , 273 )
20	0.238	0.714	45	( 14 , 237 )	( 59 , 179 )	0.986	0.533	( 59 , 179 )
21	0.773	0.920	46	( 46 , 308 )	( 44 , 153 )	0.734	0.457	( 44 , 153 )
22	0.735	0.022	47	( 44 , 7 )	( 10 , 34 )	0.172	0.102	( 10 , 34 )
23	0.325	0.235	48	( 20 , 79 )	( 29 , 245 )	0.479	0.730	( 29 , 245 )
24	0.254	0.892	49	( 15 , 297 )	( 59 , 270 )	0.977	0.805	( 59 , 270 )
25	0.629	0.901	50	( 38 , 302 )	( 26 , 162 )	0.425	0.484	( 26 , 162 )



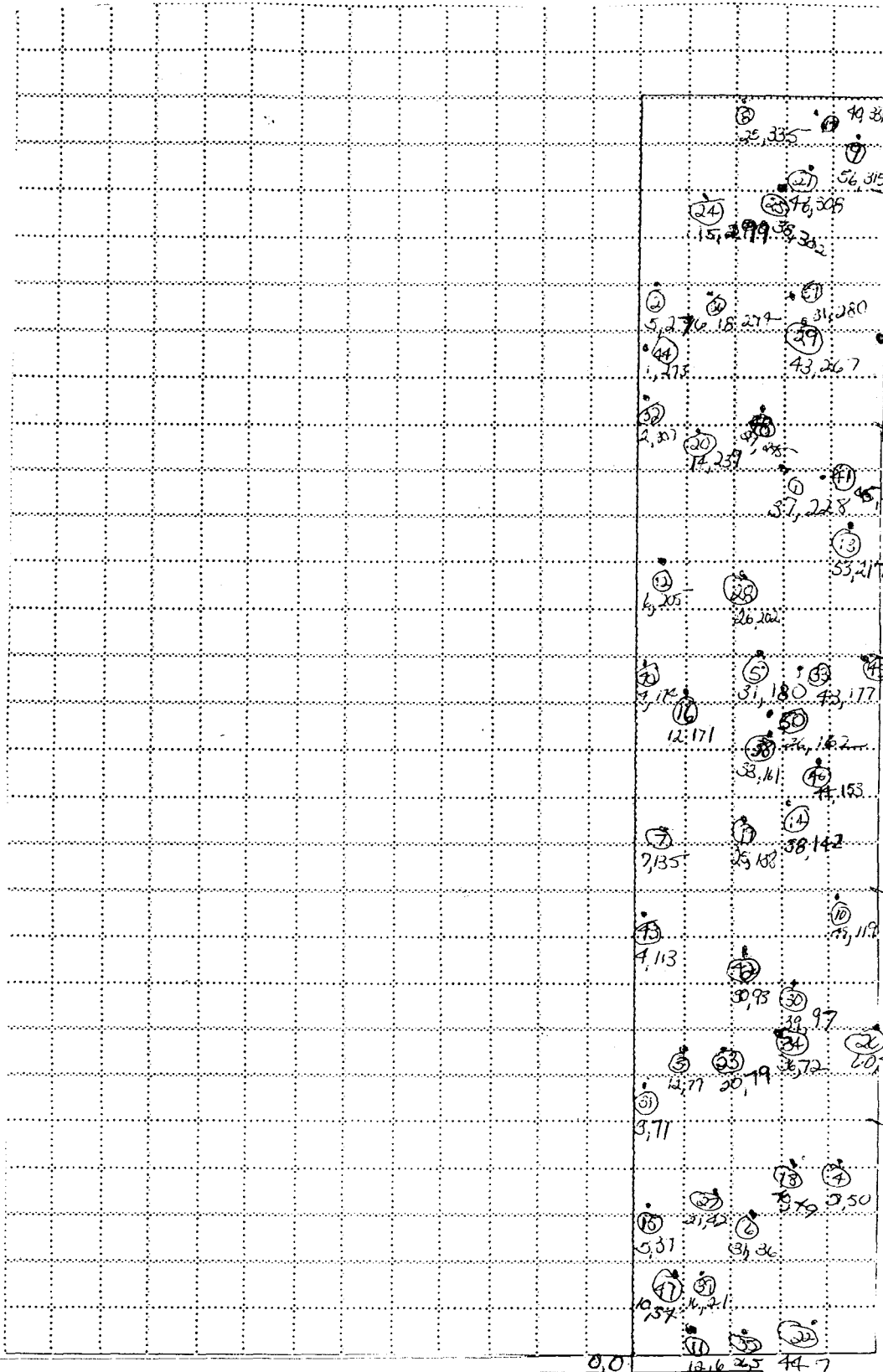
Beryllium Characterization Program

Sample Locations Specification

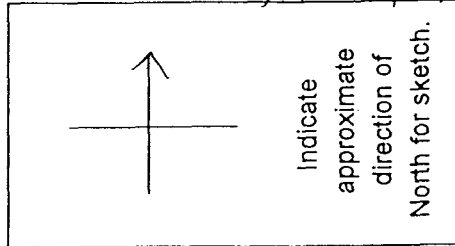
Using Coordinate Sheet Number: 114

Building Number: 904-Pcd Room Number: Test 11

Room Dimensions: East/West: 60 ft. North/South: 335 ft.



Sketch of General Room Layout  
[Indicating coordinate origin, ●, point (0, 0), and approximate location of doors.]



410  
[ ] = approx 12 ft  
Not Not to Scale

## **Appendix F.3.1.2**

### **Pad 904 Tent 11 Historical Chemical Data**

#### **Beryllium**

#### **Laboratory Report**

MAY 26 '99 14:33 FR MTC IH LAB

303 978 3005 TO 93039664555

P.02

**Johns Manville**

Johns Manville Corporation  
10100 W. Ute Avenue (80127)  
P.O. Box 625005  
Littleton, CO 80162-5005  
303 978 2000

**COVER PAGE**

May 26, 1999

Rocky Flats Environmental Technology Site  
Mr. Roger Cichorz  
P.O. Box 464, Building 881  
Golden, CO 80402-0464

Laboratory Report ID: 99052110  
Laboratory Name: JMTC IH Analytical Laboratory  
Laboratory Code: JMANS  
Subcontract Number: 800221/800188SX6  
RIN: 99Z7574  
Requestor: Karen Olson  
P.O./Charge Code: NG836900

Dear Mr. Cichorz:

The Johns Manville Technical Center (JMTC) has performed the following analytical services as requested. The results are calculated based upon the information supplied on the submission form. All laboratory data has been filed and are available upon request.

The JMTC IH Analytical Laboratory is accredited by the American Industrial Hygiene Association (AIHA) in the industrial hygiene program (Certificate No. 056) and participates in the AIHA ELPAT program.

If you have any questions, please call (303) 978-2584.

**Scope of Work:**

Requested Analysis	Bottle Number(s)	Customer Number(s)	Laboratory ID Number	Line Item Code	Sample Matrix
Beryllium	99Z7574-001.001	904-05181999-35-001	99052110-001	NR01A001	WIPE
Beryllium	99Z7574-002.001	904-05181999-35-002	99052110-002	NR01A001	WIPE
Beryllium	99Z7574-003.001	904-05181999-35-003	99052110-003	NR01A001	WIPE
Beryllium	99Z7574-004.001	904-05181999-35-004	99052110-004	NR01A001	WIPE
Beryllium	99Z7574-005.001	904-05181999-35-005	99052110-005	NR01A001	WIPE
Beryllium	99Z7574-006.001	904-05181999-35-006	99052110-006	NR01A001	WIPE
Beryllium	99Z7574-007.001	904-05181999-35-007	99052110-007	NR01A001	WIPE
Beryllium	99Z7574-008.001	904-05181999-35-008	99052110-008	NR01A001	WIPE
Beryllium	99Z7574-009.001	904-05181999-35-009	99052110-009	NR01A001	WIPE
Beryllium	99Z7574-010.001	904-05181999-35-010	99052110-010	NR01A001	WIPE
Beryllium	99Z7574-011.001	904-05181999-35-011	99052110-011	NR01A001	WIPE
Beryllium	99Z7574-012.001	904-05181999-35-012	99052110-012	NR01A001	WIPE
Beryllium	99Z7574-013.001	904-05181999-35-013	99052110-013	NR01A001	WIPE
Beryllium	99Z7574-014.001	904-05181999-35-014	99052110-014	NR01A001	WIPE
Beryllium	99Z7574-015.001	904-05181999-35-015	99052110-015	NR01A001	WIPE
Beryllium	99Z7574-016.001	904-05181999-35-016	99052110-016	NR01A001	WIPE
Beryllium	99Z7574-017.001	904-05181999-35-017	99052110-017	NR01A001	WIPE
Beryllium	99Z7574-018.001	904-05181999-35-018	99052110-018	NR01A001	WIPE
Beryllium	99Z7574-019.001	904-05181999-35-019	99052110-019	NR01A001	WIPE
Beryllium	99Z7574-020.001	904-05181999-35-020	99052110-020	NR01A001	WIPE
Beryllium	99Z7574-021.001	904-05181999-35-021	99052110-021	NR01A001	WIPE
Beryllium	99Z7574-022.001	904-05181999-35-022	99052110-022	IH01C015	AIR
Beryllium	99Z7574-023.001	904-05181999-35-023	99052110-023	IH01C015	AIR

412

MAY 26 '99 14:33 FR MTC IH LAB

303 978 3005 TO 93039664555

P.03

May 26, 1999

Laboratory Report ID: 99052110  
Laboratory Name: JMTC IH Analytical Laboratory  
Laboratory Code: JMANS  
Subcontract Number: 800221/800188SX6  
RIN: 99Z7574  
Requestor: Karen Olson  
P.O./Charge Code: NG836900

**Comments:** No problems were encountered with sample receiving and sample analyses.

I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, other than the conditions detailed above. Release of the data contained in this hard-copy sample package and the computer-readable EDD, as applicable, submitted on diskette or by modem, has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

  
\_\_\_\_\_  
Scott A. Steiner  
Industrial Hygiene Project Manager

5/28/99  
\_\_\_\_\_  
Date

### **Appendix F.3.1.3**

#### **Pad 904 Tent 11 Historical Chemical Data**

##### **Beryllium**

##### **Laboratory Data**

MAY 26 '99 14:34 FR MTC IH LAB

303 978 3005 TO 93039664555

P.04

May 26, 1999

Laboratory Report ID: 99052110

Laboratory Name: JMTC IH Analytical Laboratory

Laboratory Code: JMANS

Subcontract Number: 800221/800188SX6

RIN: 99Z7574

Requestor: Karen Olson

P.O./Charge Code: NG836900

## QUICK RESULTS SUMMARY

Line Item Code: NR01A001

Sample Matrix: WIPE

Analytical Method: OSHA ID-125G

Reporting Limit: 0.1 µg

Date Received: 05/24/99

Date Analyzed: 05/25/99

Customer Number	Laboratory ID Number	Requested Analysis	CONCENTRATION			T	Q	Constituent ID
			Backup	Main	Total			
904-05181999-35-001	99052110-001	Beryllium			< 0.1 µg	TR1	J	7440-41-7
904-05181999-35-002	99052110-002	Beryllium			< 0.1 µg	TR1	J	7440-41-7
904-05181999-35-003	99052110-003	Beryllium			< 0.1 µg	TR1	J	7440-41-7
904-05181999-35-004	99052110-004	Beryllium			0.4 µg	TR1		7440-41-7
904-05181999-35-005	99052110-005	Beryllium			< 0.1 µg	TR1	J	7440-41-7
904-05181999-35-006	99052110-006	Beryllium			0.3 µg	TR1		7440-41-7
904-05181999-35-007	99052110-007	Beryllium			0.2 µg	TR1		7440-41-7
904-05181999-35-008	99052110-008	Beryllium			0.1 µg	TR1		7440-41-7
904-05181999-35-009	99052110-009	Beryllium			0.2 µg	TR1		7440-41-7
904-05181999-35-010	99052110-010	Beryllium			< 0.1 µg	TR1	J	7440-41-7
904-05181999-35-011	99052110-011	Beryllium			< 0.1 µg	TR1	J	7440-41-7
904-05181999-35-012	99052110-012	Beryllium			< 0.1 µg	TR1	J	7440-41-7
904-05181999-35-013	99052110-013	Beryllium			< 0.1 µg	TR1	J	7440-41-7
904-05181999-35-014	99052110-014	Beryllium			< 0.1 µg	TR1	J	7440-41-7
904-05181999-35-015	99052110-015	Beryllium			0.2 µg	TR1		7440-41-7
904-05181999-35-016	99052110-016	Beryllium			< 0.1 µg	TR1	J	7440-41-7
904-05181999-35-017	99052110-017	Beryllium			< 0.1 µg	TR1	J	7440-41-7
904-05181999-35-018	99052110-018	Beryllium			< 0.1 µg	TR1	J	7440-41-7
904-05181999-35-019	99052110-019	Beryllium			< 0.1 µg	TR1	U	7440-41-7
904-05181999-35-020	99052110-020	Beryllium			< 0.1 µg	TR1	J	7440-41-7
904-05181999-35-021	99052110-021	Beryllium			< 0.1 µg	TR1	J	7440-41-7

415

MAY 26 '99 14:34 FR MTC IH LAB

303 978 3005 TO 93039664555

P.05

May 26, 1999

Laboratory Report ID: 99052110  
Laboratory Name: JMTC IH Analytical Laboratory  
Laboratory Code: JMANS  
Subcontract Number: 800221/800188SX6  
RIN: 9927574  
Requestor: Karen Olson  
P.O./Charge Code: NG836900

**QUICK RESULTS SUMMARY**

Line Item Code: IH01C015  
Sample Matrix: AIR  
Analytical Method: NIOSH 7300

Reporting Limit: 0.01 µg  
Date Received: 05/24/99  
Date Analyzed: 05/25/99

Customer Number	Laboratory ID Number	Requested Analysis	CONCENTRATION			T	Q	Constituent ID
			Backup	Main	Total			
904-05181999-35-022	99052110-022	Beryllium			< 0.01 µg	TR1	U	7440-41-7
904-05181999-35-023	99052110-023	Beryllium			< 0.01 µg	TR1	J	7440-41-7

## Be SURFACE SMEAR RESULTS (as summarized from K-H Sitewide Be Program)

SAMPLE NUMBER	BLDG	RM	SAMPLE COORDINATE NUMBER	LOCATION/DESCRIPTION	L = LESS THAN DETECTABLE LIMIT	CONCENTRATION ON FILTER (µg)	µg/100cm <sup>2</sup>
904-03081999-35-096	904	Tent 11	1	Asphalt pad	L	0.1	0.1
904-03081999-35-097	904	Tent 11	2	Asphalt pad	L	0.1	0.1
904-03081999-35-098	904	Tent 11	3	Absorbent Bag	L	0.1	0.1
904-03081999-35-099	904	Tent 11	4	Asphalt pad	L	0.1	0.1
904-03081999-35-100	904	Tent 11	5	Asphalt pad	L	0.1	0.1
904-03081999-35-101	904	Tent 11	6	Asphalt pad	L	0.1	0.1
904-03081999-35-102	904	Tent 11	7	Absorbent Bag	L	0.1	0.1
904-03081999-35-103	904	Tent 11	8	Asphalt pad	L	0.1	0.1
904-03081999-35-104	904	Tent 11	9	Asphalt pad	L	0.1	0.1
904-03081999-35-105	904	Tent 11	10	Piece of old tent	L	0.1	0.1
904-03081999-35-106	904	Tent 11	11	Asphalt pad	L	0.1	0.1
904-03081999-35-107	904	Tent 11	12	Crate	L	0.1	0.1
904-03081999-35-108	904	Tent 11	13	Piece of old tent	L	0.1	0.1
904-03081999-35-109	904	Tent 11	14	Asphalt pad	L	0.1	0.1
904-03081999-35-110	904	Tent 11	15	Asphalt pad	L	0.1	0.1
904-03081999-35-111	904	Tent 11	16	Asphalt pad	L	0.1	0.1
904-03081999-35-112	904	Tent 11	17	Asphalt pad	L	0.1	0.1
904-03081999-35-113	904	Tent 11	18	Piece of old tent	L	0.1	0.1
904-03081999-35-114	904	Tent 11	19	Asphalt pad	L	0.1	0.1
904-03081999-35-115	904	Tent 11	20	Crate	L	0.1	0.1
904-03081999-35-116	904	Tent 11	21	Asphalt pad	L	0.1	0.1
904-03081999-35-117	904	Tent 11	22	Crate	L	0.1	0.1
904-03081999-35-118	904	Tent 11	23	Crate	L	0.1	0.1
904-03081999-35-119	904	Tent 11	24	Asphalt pad	L	0.1	0.1
904-03081999-35-120	904	Tent 11	25	Asphalt pad	L	0.1	0.1
904-03081999-35-121	904	Tent 11	26	Asphalt pad	L	0.1	0.1
904-03081999-35-122	904	Tent 11	27	Crate	L	0.1	0.1
904-03081999-35-123	904	Tent 11	28	Crate	L	0.1	0.1
904-03081999-35-124	904	Tent 11	29	Crate	L	0.1	0.1
904-03081999-35-125	904	Tent 11	30	Asphalt pad	L	0.1	0.1
904-03081999-35-126	904	Tent 11	31	Asphalt pad	L	0.1	0.1
904-03081999-35-127	904	Tent 11	32	Asphalt pad	L	0.1	0.1

417



## Be SURFACE SMEAR RESULTS (as summarized from K-H Sitedside Be Program)

SAMPLE NUMBER	BLDG	RM	SAMPLE COORDINATE NUMBER	LOCATION/DESCRIPTION	L = LESS THAN DETECTABLE LIMIT	CONCENTRATION ON FILTER (µg)	µg/100cm <sup>2</sup>
904-03081999-35-128	904	Tent 11	33	Piece of old tent	L	0.1	0.1
904-03081999-35-129	904	Tent 11	34	Asphalt pad	L	0.1	0.1
904-03081999-35-130	904	Tent 11	35	Asphalt pad	L	0.1	0.1
904-03081999-35-131	904	Tent 11	36	Crate	L	0.1	0.1
904-03081999-35-132	904	Tent 11	37	Asphalt pad	L	0.1	0.1
904-03081999-35-133	904	Tent 11	38	Asphalt pad	L	0.1	0.1
904-03081999-35-134	904	Tent 11	39	Crate	L	0.1	0.1
904-03081999-35-135	904	Tent 11	40	Asphalt pad	L	0.1	0.1
904-03081999-35-136	904	Tent 11	41	Piece of old tent	L	0.1	0.1
904-03081999-35-137	904	Tent 11	42	Asphalt pad	L	0.1	0.1
904-03081999-35-138	904	Tent 11	43	Asphalt pad	L	0.1	0.1
904-03081999-35-139	904	Tent 11	44	Asphalt pad	L	0.1	0.1
904-03081999-35-140	904	Tent 11	45	Asphalt pad	L	0.1	0.1
904-03081999-35-141	904	Tent 11	46	Asphalt pad	L	0.1	0.1
904-03081999-35-142	904	Tent 11	47	Asphalt pad	L	0.1	0.1
904-03081999-35-143	904	Tent 11	48	Asphalt pad	L	0.1	0.1
904-03081999-35-144	904	Tent 11	49	Asphalt pad	L	0.1	0.1
904-03081999-35-145	904	Tent 11	50	Asphalt pad	L	0.1	0.1

904 PAD

## PERSONAL AIR SAMPLES

BUILDING	SAMPLE NUMBER	PRE FLOW	POST FLOW	SAMPLE TIME MINUTES	SAMPLE VOLUME LITERS	L = <LOD	TOTAL ON FILTER (µg)	AIR CONCENTR ATION (µg/m³)	8 HOUR TWA (µg/m³)
904 pad	904-03081999-35-161	2.63	2.67	107	284	L	0.01	0.04	0.008
	904-03081999-35-162					L	0.01	BLANK	
904 pad	904-03081999-35-163	2.61	2.58	163	424	L	0.01	0.02	0.008
	904-03081999-35-164					L	0.01	BLANK	
904 pad	904-04061999-35-076	2.68	2.71	113	305	L	0.01	0.03	0.007
	904-04061999-35-077					L	0.01	BLANK	
904 pad	904-05181999-35-022	2.57	2.52	33	84	L	0.01	0.1	0.008
	904-05181999-35-023					L	0.01	BLANK	

**Appendix G**

**Asbestos Reports**

## **Appendix G.1**

### **Historical Asbestos Characterization Reports**

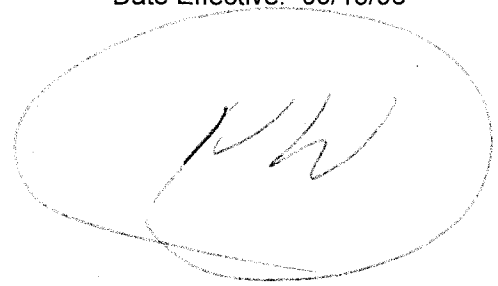
## **Appendix G.1.1**

### **Historical Asbestos Characterization Reports**

**Bldg. 551**



Rocky Mountain  
Remediation Services, L.L.C.  
... protecting the environment



## Asbestos, Polychlorinated Biphenyls and Paint Characterization Report

### Building 551

Rocky Flats Environmental Technology Site

Prepared by:

Scientific Ecology Group for

Rocky Mountain Remediation Services

Revision 0  
September 3, 1998

423

### Acronyms

AHERA	Asbestos Hazard Emergency Response Act
APO	Analytical Projects Office
Be	Beryllium
CDPHE	Colorado Department of Public Health and Environment
cm <sup>2</sup>	Square Centimeters
DCGL	Derived Concentration Guideline Level
DOE	U.S. Department of Energy
dpm	Disintegrations per minute
DQO	Data Quality Objective
EPA	U. S. Environmental Protection Agency
ICP	Inductively Coupled Plasma
MARSSIM	Multi-Agency Radiation Site Survey and Site Investigation Manual
MDA	Minimum Detectable Amount
PCB	Polychlorinated biphenyl
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
RFETS	Rocky Flats Environmental Technology Site
RLC	Reconnaissance Level Characterization
RLCR	Reconnaissance Level Characterization Report
TCLP	Toxicity Characteristic Leaching Procedure

## TABLE OF CONTENTS

1.0 INTRODUCTION.....	1
2.0 ASBESTOS IN BUILDING MATERIALS SURVEY	
2.1 Inspection procedures.....	2
2.2 Description and Location of ACM	
3.0 METALS IN PAINT SURVEY	
3.1 Inspection Procedures.....	4
3.2 Description and Location of Metals in Paint.....	5
4.0 METALS IN PAINT REGULATORY REVIEW	
3.1 Lead in Paint.....	8
3.2 Metals in Paint.....	9
5.0 PCB'S IN PAINT.....	9
6.0 ISOTOPICS IN PAINT .....	9
7.0 DISCUSSION ON DATA QUALITY OBJECTIVES	
7.1 Corrections to Sampling Protocol.....	10
7.2 Data Comparison and Matching.....	12
APPENDICES	
APPENDIX A: PAINT SAMPLE SURVEY ACTUALS	
APPENDIX B: BULK PAINT SAMPLE LAB/DATA TABLES	
APPENDIX C: BULK PAINT SAMPLE LOCATION DRAWING	



## 1.0 INTRODUCTION

During the weeks of July 27 through August 7, 1998, Building 551 and 556 were inspected and sampled for asbestos in building materials, isotopics and metals in paint by Scientific Ecology Group, Colorado (SEG) staff with the assistance of the ASI sampling team. This information is included in this report. The purpose of this inspection was to prepare for and facilitate the renovation of the facilities for the purposes of waste storage.

The primary driver for this inspection was to discover asbestos in building materials and PCB's/lead/metals in paint for resolution of Industrial Hygiene/Health and Safety and waste characterization issues. As such, analysis of the paint chips included methodologies necessary to provide data for worker exposure (ICP) risk as well as waste disposal (TCLP). Other pertinent information included several paint chip samples analyzed for isotopics.

The asbestos in building materials inspection was conducted in substantial compliance with the Environmental Protection Agency (EPA) Asbestos Hazard Emergency Response Act (AHERA) regulations published as 40CFR763 in the Federal Register in 1987.

The lead in paint inspection was conducted in accordance with the guidelines established by the US Department of Housing and Urban Development (HUD) published in the Guidelines for the Evaluation and Control of Lead Based Paint Hazards in Housing pursuant the Title X of the Housing and Community Development Act of 1992.

The enclosed report contains the location and descriptions of suspected asbestos containing building materials and metals containing paint samples on building surfaces, along with results of isotopics analysis for nine locations and PCB's analysis for one location. Materials were analyzed and results in tabular form are contained in Appendix B. Each sampled building material is described as either asbestos or non-asbestos containing. Each sampled painted surface is described as either metals or non-metals containing paint, or PCB/non-PCB containing paint. Isotopics samples acquired will assist in radiological determinations for the project.

## 2.0 ASBESTOS IN BUILDING MATERIALS SURVEY

### 2.1 Inspection Procedures

In December of 1996, Sitex performed an AHERA style building inspection in Building 551. Building 556 was not included in this inspection. SEG staff evaluated this report

that included samples of pipe insulation, drywall systems, cementitious board and floor tile. The evaluation revealed an insufficient number of drywall samples and the omission of Building 556.

Bulk samples were acquired to determine the presence of asbestos in suspect building materials. Suspect materials were chosen based on historical significance or on the judgement of the accredited inspector. Each sample was assigned an individual number made up of the building number, the date the sample was acquired, the initials of the sampling technician, and a three digit number in sequence. Quality Control samples are designated in the Bulk Sample Data Table as (QC).

A total of five (5) additional samples were acquired from suspected materials. These materials included drywall systems, ceiling tile and window putty. All samples were acquired in a random manner representative of the suspected material.

All bulk samples were analyzed by Reservoirs Environmental Services, Inc. (RESI) of Denver, Colorado. RESI is accredited through the National Institute of Standards and Technology (NIST) and participates in the NIST National Voluntary Laboratory Accreditation Program (NVLAP) as required by the EPA. Bulk samples were analyzed by Polarized Light Microscopy (PLM) in compliance with guidelines established by the EPA 40 CFR 763, Subpart F, Appendix A. Asbestos concentrations were visually estimated and reported in percent by layer of each sample.

Colorado Regulation #8 provides regulatory guidance for asbestos control. As such, this regulation requires Point Count Analysis for certain conditions and types of materials. Should a friable material analysis by PLM determine a detectable but less than 1% asbestos content, then that material must have Point Count Analysis. The bulk Sample Data Table will indicate such analysis with results in (parentheses).

## **2.2 Description and Hazard Assessment of ACM**

This section contains only those materials with potential impact on or by the project. Changes in scope of work would necessitate re-evaluation of the facility.

### **2.2.1 Thermal Systems Insulation**

Although other pipes are insulated with asbestos containing insulation in Building 551, the only pipe insulation with an immediate impact on the project is approximately 200 linear feet of pipes and insulation associated with the HVAC system in the north end of the facility. This insulation is located on the west end of the metal structure, starting in the south-west corner and extending approximately fifty feet north to a ductwork system. At the time of inspection, several dents were observed in the insulation, but it appeared intact.

The EPA/AHERA hazard assessment category for this insulation in "Thermal Systems Insulation in good condition, with potential for damage." The appropriate response

action for the insulation is to maintain in good condition and periodically survey for change in condition. In order to avoid further damage, this pipe insulation should be guarded so as to prevent contact during drum movement.

### **2.2.2 Cementitious Board: Building 551**

Approximately 3,500 square feet of cementitious, or "Transite" board, located in 22 window openings in the south half of Building 551. At the time of inspection, the panels were in generally good condition.

The EPA/AHERA hazard assessment category for the cementitious board is "Miscellaneous material in good condition." The appropriate response action for the board is to maintain in good condition and to periodically survey the material for changes in condition.

### **2.2.3 Cementitious Board: Building 556**

This material was not sampled and is assumed to be asbestos containing. Approximately 1300 square feet of cementitious or "Transite" board, located on the interior walls of Building 556. At the time of inspection, the panels were in generally good condition.

The EPA/AHERA hazard assessment category for the cementitious board is "Miscellaneous material in good condition." The appropriate response action for the board is to maintain in good condition and to periodically survey the material for changes in condition. Should the structure be demolished, these panels must be removed prior to demolition.

### **2.2.4 Built-up Roofing**

This material was not sampled and is assumed to be asbestos containing. Approximately 24,000 square feet of built-up tar, felt and gravel roofing. This roofing is located on the south end of the structure. At the time of inspection, the roof was reported to be leaking in a few locations, but appeared to be in good condition..

The EPA/AHERA hazard assessment category for the roofing is "Miscellaneous material in good condition." The appropriate response action for the roofing is to maintain in good condition and periodically survey for changes in condition.

## **3.0 METALS IN PAINT SURVEY**

### **3.1 Inspection Procedures**

Bulk paint samples were acquired from building surfaces to determine the presence of lead and other metals, including mercury. Suspect paints were chosen based on historical significance or on the judgement of the accredited inspector.

Date Effective: 09/15/98

A total of fourteen (14) sample locations were chosen and fifty (50) samples were acquired from suspected painted surfaces. These surfaces included the interior and exterior paints. Samples were chosen for their distinct color variations. All samples were acquired in a random manner representative of the individual color.

Based on historical data from other site structures, the bright red paint associated with fire and safety markings was assumed to be metals containing.

In order to facilitate the transfer of samples to off-site laboratories, radiological screening was performed on the fourteen (14) sample locations. Paragon Laboratories in Fort Collins, Colorado analyzed nine (9) sample locations for isotopics.

All paint sample locations were analyzed by the Southwest Laboratories of Oklahoma (SWLO). This lab is properly accredited for bulk paint analysis through the American Industrial Hygiene Association. Bulk paint samples were analyzed with Inductively Coupled Plasma (EPA Method SW 846-3050/7420 Total Metals) and Toxicity Characteristic Leaching Procedure (EPA SW 846 Method 1311). ICP results for the purposes of determining occupational exposure are reported in parts per million, although there may be no direct correlation between content in paint and potential exposure. TCLP results for the determination of waste streams are reported in milligrams per liter. Two (2) paint sample locations were analyzed for PCB's by SWLO.

### **3.2 Locations and Descriptions of Metals in Paint**

Contained herein is a summary of the results of bulk samples for lead/metals in the paint on surfaces in Buildings 551 and 556. Appendix B contains a Paint Chip Bulk Sample Data Table that summarizes the laboratory findings. Appendix B also includes copies of the laboratory data that details the analytical findings. TCLP analytical results are a valuable aid in waste stream determination, while ICP analytical results are a valuable aid to assessing worker health and safety.

#### **3.2.1 Building 551**

Building 551 had, at the time of inspection, dark blue, light blue, light grey, light tan, grey-green, battleship grey, textured beige and tan as predominate paint colors on interior and exterior surfaces. Following is general information regarding results of the sampling and analysis. Detailed information can be found in Appendix B

##### **3.2.1.1 Dark Blue Paint on Concrete Wall**

ICP analysis was not performed on this sample.

TCLP analysis on the dark blue paint, located on the south interior wall near the south main entry indicates metals levels below the Land Disposal Requirements.

429

PCB analysis was requested, but was not available for this report.

### **3.2.1.2 Light Grey on Concrete Walls**

The light grey paint on the concrete walls in the southwest corner office area contained detectable levels of arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver and other non RCRA metals.

TCLP analysis indicates levels above the Land Disposal Requirements for mercury and zinc.

### **3.2.1.3 Light Tan on Concrete Walls**

The light tan paint on the concrete walls in the southwest office area contained detectable levels of arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver and other non RCRA metals.

TCLP analysis indicates levels above the Land Disposal Requirements for mercury.

### **3.2.1.4 Battleship Grey on Floor, South Half**

The battleship grey paint on the floor of the south half of the building contained detectable levels of arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver and other non RCRA metals.

TCLP analysis indicates levels above the Land Disposal Requirements for lead.

### **3.2.1.5 Grey-green on Columns and Walls**

The grey-green paint on the concrete walls, columns and window panels in the interior of the south warehouse area contained detectable levels of arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver and other non RCRA metals.

TCLP analysis indicates levels above the Land Disposal Requirements for mercury.

### **3.2.1.6 Battleship Grey on Floor, North Half**

The battleship grey paint on the floor of the north half of the warehouse area contained detectable levels of arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver and other non RCRA metals.

TCLP analysis indicates levels above the Land Disposal Requirements for lead and zinc.

### **3.2.1.7 White on Drywall**

The white paint on the drywall in the office area in the east addition (room 109A) contained detectable levels of arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver and other non RCRA metals.

TCLP analysis indicates metals levels below the Land Disposal Requirements.

### **3.2.1.8 Light Blue on Concrete**

The light blue paint on the outside walls of the restroom/office areas contained detectable levels of arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver and other non RCRA metals.

TCLP analysis indicates all metals levels below the Land Disposal Requirements.

### **3.2.1.9 Tan-brown on Exterior**

The textured tan-brown exterior coating on the south half of the building contained detectable levels of arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver and other non RCRA metals.

TCLP analysis indicates metals levels below Land Disposal Requirements.

### **3.2.1.10 Tan-yellow on Exterior Sheet Metal**

The tan-yellow painted corrugated sheet metal exterior of the north half of the building contained detectable levels of arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver and other non RCRA metals.

TCLP analysis indicates levels above the Land Disposal Requirements for zinc.

## **3.2.2 Building 556**

Building 556 had, at the time of inspection, light grey as the predominate paint color on interior surfaces. Exterior surface colors included tan and brown. Following is general information on the sampling and subsequent analysis. Details can be discovered in Appendix B.

### **3.2.2.1 Light Grey on Interior Sheet Metal and Columns**

The light grey paint on the interior sheet metal and columns contained detectable levels of arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver and other non RCRA metals.

TCLP analysis indicates levels above the Land Disposal Requirements for zinc.

### **3.2.2.2 Tan on Exterior Sheet Metal**

Date Effective: 09/15/98

The tan painted sheet metal on the exterior of the building contained detectable levels of arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver and other non RCRA metals.

TCLP analysis indicates levels above the Land Disposal Requirements for zinc.

### **3.2.2.3 Brown on Exterior Sheet Metal Trim**

The brown paint on the exterior sheet metal trim contained detectable levels of arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver and other non RCRA metals.

TCLP analysis indicates levels above the Land Disposal Requirements for chromium, lead, mercury and zinc.

## **4.0 LEAD/METALS IN PAINT REGULATORY REVIEW AND RECOMMENDATIONS**

### **4.1 Lead in Paint Regulatory Review**

In June, 1995, the US Department of Housing and Urban Development (HUD) published the Guidelines for the Evaluation and Control of Lead Based Paint Hazards in Housing pursuant to Title X of the Housing and Community Development Act of 1992. The document replaced the 1990 publication Lead Based Paint: Interim Guidelines for Hazard Identification and Abatement in Public and Indian Housing. The new publication addresses lead hazards posed by paint, dust and soil in the residential environment. It provides specific guidelines for XRF and bulk paint sampling in housing including sampling locations, sample collection procedures and laboratory analysis procedures. In addition, it provides guidelines for hazard assessment of lead based paint, abatement of lead based paint, and clearance sampling. The guidelines define lead based paint as paint that contains 1.0 milligrams or more of lead per square centimeter of surface area. Although the guidelines act as a good reference for lead paint inspections, they do not apply to non-HUD homes and are not enforceable by law unless a Federal, State or RFETS directive requires adherence to all or parts of the publication.

OSHA's CFR 1926.62 applies to the disturbance or demolition of structures that contain detectable levels of lead in paint. Detection limits of 10 parts per million are commonly the lowest limit normally achievable by standard laboratory analysis. At or below this limit OSHA believes exposure poses limited risk to workers.

However, if the employer suspects that lead may be present, the employee protection and safety precautions as outlined in CFR 1926.62 apply, especially employee medical surveillance and monitoring.

FOR BUILDING 551

Date Effective: 09/15/98

Other metals in paint, such as chromium and zinc, also require special precautions for worker health and safety. Consult a Health and Safety Professional prior to and during planning and implementation of activities that may disturb paints reported as or suspected of containing metals.

## **4.2 Metals In Paint Regulatory Review: Recycling and Disposal**

Disposal of materials coated with paints must pass Toxicity Characteristic Leaching Procedure (TCLP) to meet the Land Disposal Requirements. Should analysis indicate metals or other contaminants listed as EPA Hazardous Waste above or at Regulatory (EPA 40 CFR 262.11 ) Levels, RCRA regulatory drivers must be met for disposal.

Metals coated with paints, such as sheet metal, tanks and pipes, may be recycled without major regulatory requirements. Due diligence may require notification to the receiver of the content of the paints.

## **5.0 PCB's IN PAINT**

Several painted surfaces in the facility are impacted by this project. However, based on sampling in other facilities on site and historical/process knowledge, all but one paint remained suspect. The dark blue paint on the south wall at the main south entry was suspect due to its glossy finish and thickness of application.

At the time of this report, no analytical data was available for this paint. Conservative logic dictates that this paint be PCB's containing until such time as the analytical results are available. As such, any work that may disturb this paint, or disposal of materials coated with this paint , must be in accordance with applicable regulatory guidelines.

## **6.0 ISOTOPICS IN PAINT**

As part of the initial investigation, nine locations for isotopics in paint were selected. These locations were biased by traffic patterns in the building and historical information on the facility and plant site. This baseline information may be included in more comprehensive studies in the future. Please refer to Appendix B for details on analytical results.

## **7.0 DISCUSSION ON DATA QUALITY OBJECTIVES**

In an effort to meet certain Data Quality Objectives, careful study of the Building 551 Asbestos Polychlorinated Biphenyls and Paint Sampling and Analysis Plan (RMRS, August, 1998) was necessary. During the subsequent sampling effort, certain corrections were necessary. In addition, laboratory data was cross-matched to field data. Discussion of the findings and corrections follows.

### **7.1 Corrections to Sampling Protocol**

433



Date Effective: 09/15/98

In the Sampling and Analysis Plan (RMRS, 1998), Table 2-1 described sampling requirements. During the sampling effort, it was discovered that two additional samples were necessary to adequately characterize the facility. Please refer to Appendix A, Table 6-1. Additions are shown in **[bold type in brackets]**. Deletions are *in italics*.

In the Sampling and Analysis Plan (RMRS, 1998), Table 2-1 failed to account for the exterior paints on both Buildings 551 and 556. A TCLP/ICP sample location for the oldest section of Building 551 was added to the sampling events, along with a sample of the exterior painted sheet metal of Building 556.

In the Sampling and Analysis Plan (RMRS, 1998), Table 2-1 located a TCLP/ICP sample of off-white paint on the columns in the interior of Building 551. Upon closer inspection and with the consensus of the sampling team, it was determined that the columns were painted the same color as the interior walls. The column sample was omitted from the sampling events.

In the Sampling and Analysis Plan (RMRS, 1998), Table 2-1 called for 43 samples of materials suspected of containing asbestos. A building inspection by Sitex in 1996 indicated that several materials listed in Table 2-1 had been sampled. Upon review of the Sitex report, the accredited Asbestos Inspector determined that only two samples of drywall, tape and joint compound would be necessary in Building 551. This negated the need for 33 of the samples listed in Table 2-1 in the Sampling and Analysis Plan (RMRS, 1998).

In the Sampling and Analysis Plan (RMRS, 1998), Table 2-1 included samples of pipe insulation in Building 556. Upon closer scrutiny, it was discovered that the insulation was fiberglass with no vapor barrier mastic. These observations eliminated the insulation as a suspect material and the samples were not acquired.

In the Sampling and Analysis Plan (RMRS, 1998), Table 2-1 included a sample of the cementitious wallboard on the interior walls of Building 556. Due to the physical nature of the material, and it's prevalence on site, this material is assumed to be asbestos containing, and no sample was acquired.

In the Sampling and Analysis Plan (RMRS, 1998), Table 2-1 included an asbestos sample of the cementitious wallboard on the window wells of Building 556. Due to the physical nature of the material, and it's prevalence on site, this material is assumed to be asbestos containing, and no sample was acquired.

In the Sampling and Analysis Plan (RMRS, 1998), Table 2-1 included requirements for asbestos samples of roofing materials on Building 551. After review of the building drawings that indicate no major repairs to the roof, the tar and roofing felt can be assumed to contain asbestos. Thus no samples were acquired.

In the Sampling and Analysis Plan (RMRS, 1998), Table 2-1 included requirements for asbestos samples of welding components. During the inspection, no suspect materials were discovered associated with the welders. No samples were acquired of any welding components.

In the Sampling and Analysis Plan (RMRS, 1998), Table 2-1 included requirements for asbestos samples of the exterior wall texture on the south end of Building 551. The previously mentioned Sitex report indicated that samples were acquired. This negated the need for additional sampling.

In the Sampling and Analysis Plan (RMRS, 1998), Table 2-1 did not account for the window putty in either Building 551 or 556. During the inspection, an asbestos sample of the window putty was acquired in Building 556.

In the Sampling and Analysis Plan (RMRS, 1998), Table 2-1 included requirements for PCB samples of liquids in the transformers near Building 556. Based on historical information, these samples were omitted.

In the Sampling and Analysis Plan (RMRS, 1998), Table 2-1 did columnar totals showed 11 ICP and TCLP samples with 1 QA sample (12 TOTAL). The correct totals should be 14 ICP TCLP TOTAL. Total asbestos samples showed 43, while actual sampling totaled 5.

## 7.2 Data Comparison and Matching

Sample 98A5236-010.001 was a Quality Assurance sample acquired at the same location as 98A5236-009.001. As such, the laboratory data was expected to be comparable. However, the ICP results for zinc indicated a difference of approximately 3,501 mg/kg (ppm) less for sample -010. Discussions with the lab analyst revealed that no unusual occurrences were noted during the analysis effort. The discrepancy could be traced to the application since samples were acquired of both the paint and the sheet metal. TCLP analysis was run on both samples, which yielded nearly double the mg/L concentration of zinc in sample -010 over sample -009. Based on the TCLP results, the discrepancy could be attributable to inconsistencies in the mixture of the applied paint and the sheet metal production process. This material was reported as exceeding the Land Disposal Requirement for zinc.

One paint chip sample was targeted for PCB analysis. Sample 98A5236-001.007 was sent to SWLO for this analysis. Due to a missing instruction on the Chain of Custody, the laboratory failed to analyze the sample within the prescribed hold time. However, since this sample is a solid, hardened paint chip, degradation of the sample that could compromise the quality of the sample is highly unlikely. The laboratory was instructed to perform the analysis.

435

TABLE 6-1 SAMPLE SURVEY ACTUALS

Locations	Metals in paint Samples	Asbestos	Isotopics & PCB's
B-551 S end	Grey paint, SW restrooms & offices (1); blue paint, outer wall of SW restrooms & offices (1); tan paint on main area interior walls (1); battleship grey paint on floor (1).	<i>Floor tile/mastic under carpet, SW offices (3); plaster ceiling, restrooms &amp; SW offices (5); cementitious board, exterior window wells (1); exterior wall texture (3). [drywall, tape and joint compound, mezzanine (2)]</i>	Isotopic on grey paint, walls SW offices (1); tan wall paint (1); floor paint (1). PCBs on blue paint (1).
B-551 NW corner, S end B-551 N end	Grey-green paint on interior walls (1); battleship grey paint on floors (1). <b>[tan corrugated exterior sheet metal (1)]</b>	<i>TSI on steam pipes (3); roofing mat'ls (3).</i>	Isotopic on grey-green paint (1); battleship grey (1).
B-551 E extension	Off-white paint on drywall system near door 16-D (1).	Drywall, tape and joint compound, offices near door 16-D ([2] 5), exterior roofing mat'ls (3); exterior wall texture (2).	Isotopic on off-white paint (1).

ASBESTOS/PCB'S/METALS IN PAINT  
CHARACTERIZATION REPORT

14

RF/RMRS-98-272.UN  
TOC, Rev. 0, Page 21 of

FOR BUILDING 551

Date Effective: 09/15/98

B-556 interior	Grey paint, interior walls (1); off-white, interior columns (1).	<i>TSI on pipes (3); ceiling tiles ([1]3); cementitious wallboard (1); welder components (3).</i>	Isotopic on grey paint (1).
B-556 exterior	Tan paint on sheet metal (1); brown paint on doors, gables, gutters & downspouts (1).		Isotopic on tan sheet metal (1).
QA/QC Samples @ 5%	1	2 [0]	1
<b>TOTALS</b>	<b>12 [14]</b>	<b>43 [5]</b>	<b>13[10]</b>

**ASBESTOS BULK SAMPLE DATA TABLE 2-2**

Sample Number	Sample Description and Location	Lab Result PLM (PC)
551-980731-MS-001	Drywall, tape and joint compound; from room 109, NW office, SE corner, 4' from the floor.	A: ND B: ND C: ND
551-980731-MS-002	Drywall, tape and joint compound; from room 109, west main office, west wall, 3'S of NW corner, 4' from the floor.	A: ND B: ND C: ND
551-980731-MS-003	Drywall, tape and joint compound; from room 201, S wall, 20' E of W wall, 5' from the floor.	A: ND B: ND C: ND
551-980731-MS-004	Window putty; from B556, S wall, W window, base of left center pane.	A: TR (TR)
551-980731-MS-005	Ceiling tile 2' x 4' with bird track pattern; from B556 8' W of E wall, 8' N of S wall.	A: ND

Note: ND means None Detected, TR means Trace.

437

Date Effective: 09/15/98

### PAINT CHIP BULK SAMPLE DATA TABLE 3-2

Sample Number	Sample Description and Location	Lab Analysis (Result)
98A5236-001.006	Dark blue paint on concrete; from B551, inside main south entry, S wall, W corner, 8' from the floor.	Rad Screen: (53 pC/g)
98A5236-001.007		TCLP: all < LDR
98A5236-002.001	Light grey paint on concrete; from B551 room 106, N wall, 11' E of NW corner, 7' from the floor.	Rad Screen: (20 pC/g)
98A5236-002.002		Total Metals: arsenic, barium, cadmium, chromium, <b>lead</b> , mercury, selenium, silver.
98A5236-002.003		TCLP Metals: mercury, zinc
98A5236-002.005		Isotopic: see Appendix B Isotopics
98A5236-003.001	Light tan paint on concrete; from B551 room 106, W wall, 10' S of NW corner, 3' from the floor.	Rad Screen: (7 pC/g)
98A5236-003.002		Total Metals: arsenic, barium, cadmium, chromium, <b>lead</b> , mercury, selenium, silver, others
98A5236-003.003		TCLP Metals: mercury
98A5236-003.004		Isotopic: see Appendix B Isotopics
98A5236-004.001	Battleship grey over maroon paint on concrete; from B551 floor, south half, 6' S of column B8	Rad Screen: (16 pC/g)
98A5236-004.002		Total Metals: arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver, others
98A5236-004.003		TCLP Metals: lead
98A5236-004.004		Isotopic: see Appendix B Isotopics
<b>Sample Number</b>	<b>Sample Description and Location</b>	<b>Lab Analysis (Result)</b>
98A5236-005.001	Grey-green paint on concrete; from B551, column B8, south side, 3' from the floor.	Rad Screen: (11 pC/g)
98A5236-005.002		Total Metals: arsenic, barium, cadmium, chromium, <b>lead</b> , mercury, selenium, silver, others

438

ASBESTOS/PCB'S/METALS IN PAINT  
CHARACTERIZATION REPORT

14

FOR BUILDING 551

RF/RMRS-98-272.UN  
TOC, Rev. 0, Page 23 of

Date Effective: 09/15/98

TCLP Metals: mercury

Isotopic: see Appendix B  
Isotopics

Rad Screen: (11 pC/g)

Total Metals: arsenic, barium,  
cadmium, **chromium**, **lead**,  
mercury, selenium, silver, others  
TCLP Metals: lead, zinc

Isotopic: see Appendix B  
Isotopics

Rad Screen: (7 pC/g)

Total Metals: arsenic, barium,  
cadmium, chromium, lead,  
mercury, selenium, silver, others  
TCLP Metals: all < LDR

Isotopic: see Appendix B  
Isotopics

Rad Screen: (9 pC/g)

Total Metals: arsenic, barium,  
cadmium, **chromium**, **lead**,  
mercury, selenium, silver, others

**Lab Analysis (Result)**

TCLP Metals: zinc

Isotopic: see Appendix B  
Isotopics

Rad Screen: (0.37 pC/g)

Total Metals: arsenic, barium,  
cadmium, chromium, **lead**,  
mercury, selenium, silver, others  
TCLP Metals: all < LDR

Isotopic: see Appendix B  
Isotopics

98A5236-  
005.003

98A5236-  
005.004

98A5236-  
006.001

Battleship grey over maroon paint;  
from B551 north end, SW corner, near  
condensate pump.

98A5236-  
006.002

98A5236-  
006.003

98A5236-  
006.004

98A5236-  
007.001

White paint on drywall; from B551  
east addition, room 109A, W wall, 3' N  
of SW corner, 4' from the floor.

98A5236-  
007.002

98A5236-  
007.003

98A5236-  
007.004

98A5236-  
008.001

Light grey paint on sheet metal; from  
B556 interior, S wall, below SW  
window.

98A5236-  
008.002

**Sample Number**

**Sample Description and Location**

98A5236-  
008.003

98A5236-  
008.004

98A5236-  
009.001

Tan paint on sheet metal; from B556  
exterior, E wall, 3' N of door 3T, 6'  
from the ground.

98A5236-  
009.002

98A5236-  
009.003

98A5236-  
009.004

439

ASBESTOS/PCB'S/METALS IN PAINT  
CHARACTERIZATION REPORT

14

FOR BUILDING 551

RF/RMRS-98-272.UN  
TOC, Rev. 0, Page 24 of

Date Effective: 09/15/98  
Rad Screen: (9 pC/g)

98A5236-  
010.001 (QC)

Tan paint on sheet metal; from B556  
exterior, E wall, 3' N of door 3T, 6'  
from the ground.

98A5236-  
010.002

Total Metals: arsenic, barium,  
cadmium, chromium, **lead**,  
mercury, selenium, silver, others  
TCLP Metals: zinc

98A5236-  
010.003

98A5236-  
010.004

Isotopic: see Appendix B  
Isotopics

98A5236-  
011.001

Brown paint on metal; from B556  
exterior, E wall N side of door 3T, at  
base.

Rad Screen: (22.3 pC/g)

98A5236-  
011.002

Total Metals: arsenic, barium,  
cadmium, **chromium**, **lead**,  
mercury, selenium, silver, others  
TCLP Metals: chromium, lead,  
mercury, zinc

98A5236-  
011.003

98A5236-  
012.001

Tan-brown paint on concrete; from  
B551 exterior, E wall, near Door 15D,  
3' N of N jamb, 4' from the ground.

Rad Screen: (16.3 pC/g)

**Sample Number**

**Sample Description and Location**

98A5236-  
012.002

**Lab Analysis (Result)**

Total Metals: arsenic, barium,  
cadmium, chromium, **lead**,  
mercury, selenium, silver, others  
TCLP Metals: all < LDR

98A5236-  
012.003

98A5236-  
013.001

Tan-yellow paint on sheet metal; from  
B551 N exterior, E wall, at door 12D,  
3' N of N jamb, 4' from the ground

Rad Screen: (1.10 pC/g)

98A5236-  
013.002

Total Metals: arsenic, barium,  
cadmium, chromium, **lead**,  
mercury, selenium, silver, others  
TCLP Metals: zinc

98A5236-  
013.003

98A5236-  
015.001

Light blue paint on concrete; from E  
exterior wall between room 104 & 103  
entry doors, 3' from the floor.

Rad Screen: (11.0 pC/g)

98A5236-  
015.002

Total Metals: arsenic, barium,  
cadmium, chromium, **lead**,  
mercury, selenium, silver, others  
TCLP Metals: all < LDR

98A5236-  
015.003

440

**Statement of Certification**

The asbestos in building materials and metals in paint building inspection evaluation performed on **Building 551** was performed in accordance with applicable regulations.

Inspector: Michael N. Schluterbusch

441



## RESERVOIRS ENVIRONMENTAL SERVICES, INC.

WVAP Accredited Laboratory #1896

TABLE I. PLM BULK ANALYSIS, PERCENTAGE COMPOSITION BY VOLUME

RES Job Number:

Client:

Client Project:

Date Samples Received:

Analysis Type:

Turnaround:

RES 53808-1&amp;2

Kaiser-Hill Company, LLC

98Z2563/H02B001, Mike Schuttbursch

August 11, 1998

PLM Short Report, Bulk

24 Hour

Note: The US EPA requires use of stratified analysis for NESHA and AHERA compliance. Composite results only apply for specific exceptions.

Sample Number	Lab ID Number	Physical Description	Portion of Total Sample (%)	ASBESTOS CONT. (%)										Non-Asbestos Fibrous Components (%)										Non-Fibrous Components (%)																													
				BY LAYER										Visual Estimate (%)										C G S H W T O A F H E R										C G S H W T O A F H E R																			
				Mineral										Mineral										Mineral										Mineral																			
551-980731MS-001	EM 359694	A White plaster w/white paint	10	ND										0 0 0 0 0 0 0 0 0 0										0 0 0 0 0 0 0 0 0 0										100																			
		B Tan/white fibrous material	20	ND										96 0 0 0 0 0 0 0 0 0 0										96 0 0 0 0 0 0 0 0 0 0										4																			
		C Pink fibrous plaster	70	ND										10 0 0 0 0 0 0 0 0 0										10 0 0 0 0 0 0 0 0 0										90																			
551-980731MS-002	EM 359695	A White plaster w/white paint	5	ND										0 0 0 0 0 0 0 0 0 0										0 0 0 0 0 0 0 0 0 0										100																			
		B Tan fibrous material	15	ND										96 0 0 0 0 0 0 0 0 0 0										96 0 0 0 0 0 0 0 0 0 0										4																			
		C White fibrous plaster	80	ND										10 0 0 0 0 0 0 0 0 0										10 0 0 0 0 0 0 0 0 0										90																			
551-980731MS-003	EM 359696	A White plaster (mud)	25	ND										0 0 0 0 0 0 0 0 0 0										0 0 0 0 0 0 0 0 0 0										100																			
		B Tan/white fibrous material	35	ND										96 0 0 0 0 0 0 0 0 0 0										96 0 0 0 0 0 0 0 0 0 0										4																			
		C White plaster	40	ND										5 0 0 0 0 0 0 0 0 0										5 0 0 0 0 0 0 0 0 0										95																			
551-980731MS-004	EM 359697	A Gray plaster w/white paint	100	Chrysotile Point Count										TR										0 0 0 0 0 0 0 0 0 0										0 0 0 0 0 0 0 0 0 0										100									
												TR										Observed but not countable under protocol, < 0.25%																															
551-980731MS-005	EM 359698	A Gray fibrous perlitic material w/white paint	100	ND										30 30 0 0 0 0 0 0 0 0										30 30 0 0 0 0 0 0 0 0										40																			

ND = None Detected  
TR = Trace, < 1 % Visual Estimate

CELL = Cellulose  
ORG = Organic  
Trem-Act = Tremolite-Actinolite

WOLL = Wollastonite  
BRUC = Brucite

GYP = Gypsum  
SYNTH = Synthetic

Analyst: PDL

ND = None Detected

TR = Trace, &lt; 1% Visual Estimate

CELL = Cellulose

Trem-Act = Tremolite-Actinolite

ORG = Organic

WOLL = Wollastonite

BRUC = Brucite

GYP = Gypsum

SYNTH = Synthetic

Analyst: PDL

Date: 08/11/98

442

***ASBESTOS INSPECTION  
AND  
OPERATIONS AND MAINTENANCE PLAN  
FOR  
BUILDING 551  
ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE  
GOLDEN, COLORADO  
SECTION I  
(INTRODUCTION, METHODOLOGY, ASBESTOS INSPECTION)***

***PREPARED FOR  
U.S. DEPARTMENT OF ENERGY  
ROCKY FLATS FIELD OFFICE, BUILDING B131  
P.O. BOX 928  
GOLDEN, COLORADO 80402***

***PROJECT NO. 108230***

***DECEMBER 31, 1996***



11905 Borman Drive  
St. Louis, MO 63146

(314) 569-1119

**TABLE OF CONTENTS****Section I**

	<b><u>PAGE</u></b>
<b>INTRODUCTION .....</b>	<b>1</b>
<b>METHODOLOGY .....</b>	<b>2</b>
<b>ASBESTOS INSPECTION .....</b>	<b>2</b>
<b>Space Inventory and Recommended Response Action Form .....</b>	<b>2</b>
<b>Bulk Sample Results and Photographic Log Form .....</b>	<b>3</b>
<b>Present and Future Exposure Potential Form .....</b>	<b>3</b>
<b>Inspection Findings .....</b>	<b>3</b>
 <b>Space Inventory and Recommended Response Action Forms</b>	
<b>Bulk Sample Results and Photographic Log Forms</b>	
<b>Present and Future Exposure Potential Forms</b>	
<b>Drawings</b>	
<b>Photographs</b>	

**Section II**

	<b><u>PAGE</u></b>
<b>OPERATIONS AND MAINTENANCE PLAN .....</b>	<b>1</b>
<b>Definitions .....</b>	<b>1</b>
<b>Training .....</b>	<b>3</b>
<b>Warning Labels .....</b>	<b>5</b>
<b>Personal Medical Monitoring .....</b>	<b>6</b>
<b>Response Actions .....</b>	<b>7</b>
<b>Preventive Measures .....</b>	<b>8</b>
<b>Operations and Maintenance Program .....</b>	<b>8</b>
<b>Surveillance and Reinspection .....</b>	<b>17</b>

444

**TABLE OF CONTENTS (CONT.)****Section II (Cont.)**

	<b><u>PAGE</u></b>
<b>Record Keeping and Updating of the O&amp;M Plan .....</b>	<b>19</b>
<b>Transport and Disposal of Asbestos Waste .....</b>	<b>20</b>
<b>Record Keeping Forms .....</b>	<b>20</b>
<b>Respiratory Protection Program .....</b>	<b>22</b>
<b>OBSERVATIONS .....</b>	<b>30</b>

**Section III**

<b>APPENDIX A.</b>	<b>OSHA ASBESTOS REGULATIONS FOR CONSTRUCTION INDUSTRY (29 CFR 1926.1101)</b>
<b>APPENDIX B.</b>	<b>OSHA ASBESTOS REGULATIONS FOR GENERAL INDUSTRY (29 CFR 1910.1001)</b>
<b>APPENDIX C.</b>	<b>OSHA RESPIRATORY PROTECTION (29 CFR 1910.134)</b>
<b>APPENDIX D.</b>	<b>EPA NESHAPS REVISION FOR ASBESTOS; FINAL RULE (40 CFR PART 61)</b>
<b>APPENDIX E.</b>	<b>EPA MODEL ACCREDITATION PLAN</b>
<b>APPENDIX F.</b>	<b>LABORATORY ANALYSIS AND LAB QUALIFICATIONS</b>
<b>APPENDIX G.</b>	<b>COLORADO AIR QUALITY CONTROL COMMISSION REGULATIONS</b>
<b>APPENDIX H.</b>	<b>RECORD KEEPING FORMS</b>
<b>APPENDIX I.</b>	<b>RESPIRATORY PROTECTION EVALUATION FORMS</b>

**TABLE OF CONTENTS****Section I**

	<b><u>PAGE</u></b>
<b>INTRODUCTION .....</b>	<b>1</b>
<b>METHODOLOGY .....</b>	<b>2</b>
<b>ASBESTOS INSPECTION .....</b>	<b>2</b>
<b>Space Inventory and Recommended Response Action Form .....</b>	<b>2</b>
<b>Bulk Sample Results and Photographic Log Form .....</b>	<b>3</b>
<b>Present and Future Exposure Potential Form .....</b>	<b>3</b>
<b>Inspection Findings .....</b>	<b>3</b>
 <b>Space Inventory and Recommended Response Action Forms</b>	
<b>Bulk Sample Results and Photographic Log Forms</b>	
<b>Present and Future Exposure Potential Forms</b>	
<b>Drawings</b>	
<b>Photographs</b>	

## INTRODUCTION

SITEX Environmental, Inc. (SITEX) was retained by the U.S. Department of Energy, Rocky Flats Field Office in Golden, Colorado to conduct an asbestos inspection and develop an operations and maintenance plan (O&M) for Building 551 located at the Rocky Flats Environmental Technology Site on U.S. Highway 93 in Golden, Colorado. This site is presently an industrial complex which was formerly used to manufacture nuclear weapons.

The asbestos inspection and O&M plan preparation was conducted in accordance with applicable asbestos regulations of the Occupational Safety and Health Administration (OSHA) and U.S. Environmental Protection Agency (EPA). Pertinent OSHA asbestos regulations are contained in Title 29 of the Code of Federal Regulations (CFR), Parts 1910.1001 and 1926.1101. EPA asbestos regulations adhered to were based on the Asbestos School Hazard Abatement Reauthorization Act (ASHARA) which amended the Asbestos Hazard Emergency Response Act (AHERA) or Title II of the Toxic Substance Control Act (TSCA) to extend training and accreditations described in the asbestos Model Accreditation Plan (MAP) to public and commercial buildings. AHERA was originally mandated to address asbestos-containing building materials located in public and private schools grades kindergarten through 12th. Regulations concerning ASHARA, AHERA and MAP are found in Title 40 of the CFR Part 763. OSHA and EPA regulations are presented in Appendices A through E.

The asbestos inspection included the collection of bulk material samples of suspect asbestos-containing materials in the form of surfacing materials, thermal system insulation and miscellaneous materials. The sampled materials are identified by space locations, area descriptions, sample numbers, photographic numbers and bulk material sample results. Asbestos-containing materials are further defined by material classification with a recommended response actions. Bulk sample results and a photographic log contain the percent and type of asbestos found in sampled materials and the photograph number of the photograph depicting the sampled material. Also presented are potential exposure concerns and a drawing indicating the spaces where asbestos-containing materials are located.

The O&M plan contains procedures to allow qualified asbestos personnel to properly address small-scale, short duration asbestos projects and record keeping forms to assist in documenting abatement projects conducted by qualified contractors. The projects would encompass asbestos removal, repair, encapsulation, enclosure or an emergency response or scheduled maintenance procedure.

This document, particularly the O&M plan, requires continual updating and record keeping by a qualified designated person of all activities related to asbestos-containing material and a current evaluation of their present and future exposure potentials. Material condition and potential for damage could change significantly with time. The owner is required to periodically reinspect the asbestos-containing materials or presumed asbestos-containing materials found in this building due to the potential changes in material condition. The qualified designated person should also ensure that all information is in accordance with current asbestos regulations. Regulations found in OSHA, EPA and the State of Colorado publications shall take precedence over this document at all times.

## **METHODOLOGY**

Building 551 was inspected for suspect asbestos-containing materials which included surfacing materials, thermal system insulation and miscellaneous materials. Each material was identified by space number, quantified and then assessed for condition. Bulk material samples were collected of each suspect material utilizing AHERA and OSHA sampling protocols. Homogeneous determinations were made for asbestos-containing thermal system insulation which extended into more than one building space. All other materials (surfacing and miscellaneous) were described for each building space which eliminated the need to identify homogeneous spaces. The advantage of this strategy was to allow the users of this report immediate information regarding the asbestos-containing materials in any given space and not have to rely on a group of functional spaces which would define a homogeneous area.

Bulk material samples of suspect asbestos-containing materials were analyzed by polarized light microscopy (PLM) analysis with dispersion staining (DS) using EPA Method 600 IR-93/116 which is the present analytical method recommended by EPA. Analysis was performed by International Asbestos Testing Laboratory (IATL) located at 16000 Horizon Way, Unit 100 in Mount Laurel, New Jersey. IATL is accredited or approved by the National Institute of Science and Technology-National Voluntary Laboratory Accreditation Program (NIST-NVLAP), American Industrial Hygiene Association (AIHA) and Proficiency Analytical Testing (PAT) program. Laboratory analysis and qualifications for IATL are presented in Appendix F.

The O&M plan was developed using a combination of OSHA regulations and industry standards which are published in a variety of EPA documents. Recommended response actions were determined according to asbestos material condition; whether it was friable and its potential for present and future release of asbestos fibers. The adopted rating system was based on a subjective evaluation which included "low", "moderate" and "high" priority. Low would indicate a priority of concern less than moderate or high. Moderate would indicate a priority of concern higher than low and less than high and so on for high. Some ratings were also presented as a combination of low, moderate and high such as low to moderate or moderate to high.

## **ASBESTOS INSPECTION**

The findings of the asbestos inspection and assessment determinations for Building 551 are documented on the Space Inventory and Recommended Response Action form, the Bulk Sample Results and Photographic Log form and the Present and Future Exposure Potential forms.

### **Space Inventory and Recommended Response Action Form**

The Space Inventory and Recommended Response Action form includes the space number, asbestos material, material classification, approximate quantity, material condition and recommended response action. The **space number** indicates the area which was inspected for suspect asbestos-containing materials. **Asbestos materials** refer to the confirmed asbestos-containing materials which were in the inspected space. **Material classification** describes whether the asbestos material

## **ASBESTOS INSPECTION (CONT.)**

### **Space Inventory and Recommended Response Action Form (Cont.)**

was friable, Category I nonfriable or Category II nonfriable which are defined in Section II of this report. The **approximate quantity** indicates the amount of the particular asbestos material present in a space. **Present condition** indicates the present condition of the asbestos material and the type and amount of damage, if any. The **recommended response action** was based on material classification and present condition. The recommended response action was chosen to minimize fiber exposure to building occupants and the environment.

### **Bulk Sample Results and Photographic Log Form**

The Bulk Sample Results and Photographic Log form is composed of the space number, description of area, sample number, material sampled, photograph number and results. The **space number** is the same as previously mentioned. The **description of area** provides recognizable names which indicate the activity or function of the space. The **sample number** consists of the building number followed by standard counting numbers to indicate a unique sample number. **Material sampled** refers to the actual sampled material in a particular space. The **photograph number** indicates the photographs taken of bulk material samples and details of building spaces. **Results** are the determined laboratory analysis of the collected bulk material samples.

### **Present and Future Exposure Potential Form**

The Present and Future Exposure Potential form consists of headings stating space number, asbestos material, friable, present condition, damage potential and exposure potential. Exposure potential is subdivided into headings of present (no response action); future (response action completed); and future (response action not completed). The **space number**, **asbestos material** and **present condition** were previously defined. **Friable** warrants a yes or no response based on whether the material is friable or nonfriable. **Damage potential** is indicated as low, moderate or high which is based on damage from physical contact, material location and deterioration factors such as air movement, vibration and water damage. The **exposure potential** also indicated as low, moderate or high is based on the asbestos material, whether it is friable, the present condition and the damage potential. Exposure potential is further defined as **present** with no response action being performed and **future** with and without the recommended response action being completed.

### **Inspection Findings**

The completed Space Inventory and Recommended Response Action form, Bulk Sample Results and Photographic Log form and Present and Future Exposure Potential form for Building 551 are as follows. Also presented is a building drawing which indicates space numbers, asbestos materials present and photograph numbers. The photographs which are referred to in the Space Inventory and Recommended Response Action form, the Bulk Sample Results and Photographic Log form and the drawing are presented following the building drawing.



**BUILDING 551**

**Space Inventory and Recommended Response Action**

# SPACE INVENTORY AND RECOMMENDED RESPONSE ACTION

Building No: 551

Location: Rocky Flats

Date: December 18, 1996

Space No.	Asbestos Material	Material Classification	Approximate Quantity	Material Condition	Recommended Response Action
100	cementitious wall	nonfriable, II	125 sq. ft.	no damage	operations and maintenance
101	pipe insulation, condensate steam	friable	3 ln. ft.	no damage	operations and maintenance
101	pipe insulation, steam 15	friable	650 ln. ft.	no damage	operations and maintenance
101	pipe insulation, steam 125	friable	150 ln. ft.	no damage	operations and maintenance
101	pipe elbows/fittings, steam 125/condensate steam pumped	friable	100 elbows/fittings	no damage	operations and maintenance
102	pipe insulation, steam	friable	10 ln. ft.	no damage	operations and maintenance
102	pipe insulation, domestic hot water	friable	6 ln. ft.	no damage	operations and maintenance
102	pipe elbows/fittings, domestic cold water	friable	3 elbows/fittings	<1 ln. ft. damage	repair/operations and maintenance
103	pipe insulation, condensate steam	friable	20 ln. ft.	no damage	operations and maintenance
103	pipe elbows/fittings	friable	4 elbows/fittings	no damage	operations and maintenance
104	pipe insulation, steam 15	friable	10 ln. ft.	no damage	operations and maintenance

# SPACE INVENTORY AND RECOMMENDED RESPONSE ACTION (CONT.)

Building No: 551

Location: Rocky Flats

Date: December 18, 1996

Space No.	Asbestos Material	Material Classification	Approximate Quantity	Material Condition	Recommended Response Action
104	pipe insulation, condensate steam	friable	20 ln. ft.	no damage	operations and maintenance
104	pipe elbow, domestic cold water	friable	4 elbows	no damage	operations and maintenance
105	pipe insulation, labeled "asbestos"	friable	10 ln. ft.	no damage	operations and maintenance
105	9" x 9" floor tile, beneath carpet	nonfriable, II	150 sq. ft.	no damage	operations and maintenance
105A	cementitious walls	nonfriable, II	100 sq. ft.	no damage	operations and maintenance
105A	9" x 9" floor tile, beneath carpet	nonfriable, I	100 sq. ft.	no damage	operations and maintenance
106	pipe insulation	friable	175 ln. ft.	no damage	operations and maintenance
106	cementitious walls	nonfriable, II	200 sq. ft.	no damage	operations and maintenance
106	9" x 9" floor tile, beneath carpet	nonfriable, I	600 sq. ft.	no damage	operations and maintenance
107	pipe insulation, steam	friable	20 ln. ft.	no damage	operations and maintenance
109	pipe elbows/fitting, steam 15	friable	50 elbows/fittings	no damage	operations and maintenance
109	pipe elbows/fittings, condensate steam pumped	friable	40 elbows/fittings	no damage	operations and maintenance
111	pipe elbows/fittings, steam 15	friable	130 elbows/fittings	no damage	operations and maintenance

# SPACE INVENTORY AND RECOMMENDED RESPONSE ACTION (CONT.)

Building No: 551  
Location: Rocky Flats

Date: December 18, 1996

Space No.	Asbestos Material	Material Classification	Approximate Quantity	Material Condition	Recommended Response Action
111 (Cont.)	pipe elbows/fittings, condensate steam pumped	friable	3 elbows	1 damage	repair/operations and maintenance
201	pipe insulation, steam 15	friable	6 ln. ft.	no damage	operations and maintenance
201	pipe insulation, condensate steam pumped	friable	6 ln. ft.	no damage	operations and maintenance
201 Platform	pipe insulation, steam 125	friable	30 ln. ft.	no damage	operations and maintenance
201 Platform	pipe elbows/fittings, steam 125	friable	5 elbows/fittings	no damage	operations and maintenance

Sylvester B. Douglas

Management Planner/Inspector's Name

*Sylvester Douglas*

Signature

Management Planner/Inspector ID

**BUILDING 551**

**Bulk Sample Results and Photographic Log**

# BULK SAMPLE RESULTS AND PHOTOGRAPHIC LOG

Building No: 551  
Location: Rocky Flats

Page No. 1  
Date: December 18, 1996

Space No.	Description of Area	Sample No.	Material Samples	Photo No.	Results
101	Warehouse	551-016	pipe insulation, steam 15	16	20% Chrysotile, 20% Amosite
101	Warehouse	551-017	pipe elbow insulation, steam 15	17	2.5% Chrysotile, 4% Amosite
101	Warehouse	551-018	pipe insulation, steam 15 from mezzanine platform		20% Chrysotile, 20% Amosite
101	Warehouse	551-023	pipe elbow insulation, steam 15	21	5% Chrysotile
101	Warehouse	551-024	pipe elbow insulation condensate steam pumped	22	<1% Chrysotile, 4% Amosite
101	Warehouse	551-025	pipe valve insulation condensate steam pumped	22	5% Amosite
101	Warehouse	551-026	pipe elbow insulation steam 125	23	5% Chrysotile, 2% Amosite
101	Warehouse	551-027	pipe elbow insulation condensate steam pumped	24	2.5% Amosite
101	Mechanical Area Mezzanine Platform	551-020	pipe insulation steam 125	18	40% Chrysotile, 5% Amosite
101	Mechanical Area Mezzanine Platform	551-021	pipe elbow insulation, steam 125	19	2% Chrysotile, 2% Amosite

455

# BULK SAMPLE RESULTS AND PHOTOGRAPHIC LOG (CONT.)

Building No: 551  
Location: Rocky Flats

Page No. 2  
Date: December 18, 1996

Space No.	Description of Area	Sample No.	Material Samples	Photo No.	Results
101	Mechanical Area Mezzanine Platform	551-022	pipe insulation, steam 125	20	15% Chrysotile, 20% Amosite
102	Women's Rest Room	551-008	pipe insulation domestic hot water	9	20% Chrysotile, 20% Amosite
102	Women's Rest Room	551-009	pipefitting insulation domestic cold water	9	20% Chrysotile, 20% Amosite
102	Women's Rest Room	551-013	pipe insulation domestic cold water	13	None Detected
103	Closet/Pipechase	551-007	pipe insulation domestic cold water	8	None Detected
103	Closet/Pipechase	551-015	pipe insulation domestic cold water	15	None Detected
103	Closet/Pipechase	551-019	pipe elbow insulation domestic hot water	8	20% Chrysotile, 20% Amosite
104	Men's Rest Room	551-010	pipe elbow insulation domestic cold water	10	4% Chrysotile, 3% Amosite
105	Office	551-001	drywall	2	None Detected
105A	Office	551-006	base molding	7	None Detected

# BULK SAMPLE RESULTS AND PHOTOGRAPHIC LOG (CONT.)

Building No: 551  
 Location: Rocky Flats

Page No. 3  
 Date: December 18, 1996

Space No.	Description of Area	Sample No.	Material Samples	Photo No.	Results
106	Office	551-002	pipe insulation labeled "asbestos"	3	20% Chrysotile, 5% Amosite
106	Office	551-003	cementitious wall	4	60% Chrysotile
106	Office	551-004	9" x 9" floor tile, brown, beneath carpet	5	15% Chrysotile
106	Office	551-005	pipe elbow insulation, labeled "asbestos"	6	20% Chrysotile, 15% Amosite
109	Storage	551-028	pipe elbow insulation condensate steam pump	25	1.25% Amosite
109	Storage	551-029	pipe elbow/fitting, steam 15	26	3.5% Amosite
109	Storage	551-030	pipe elbow/fitting, steam 15	27	6% Amosite
109C	Office	551-031	base molding, brown	28	None Detected
109C	Office	551-032	drywall	29	None Detected
111	Office	551-033	pipe elbow insulation condensate steam pumped	30	30% Chrysotile
111	Shop Area	551-037	pipe elbow insulation steam 15, main line	34	10% Chrysotile



# BULK SAMPLE RESULTS AND PHOTOGRAPHIC LOG (CONT.)

Building No: 551

Location: Rocky Flats

Page No. 4

Date: December 18, 1996

Space No.	Description of Area	Sample No.	Material Samples	Photo No.	Results
111	Shop Area	551-038	pipe elbow insulation steam 15, main line, north center	35	10% Chrysotile
111	Shop Area	551-039	pipe elbow insulation steam 15, main line, center area	36	15% Chrysotile
111	Shop Area	551-040	pipe elbow insulation steam 15, main line, center area	37	20% Chrysotile
201	Storage/Meeting	551-011	drywall	11	None Detected
201	Storage/Meeting	551-012	drywall	12	None Detected
201	Storage/Meeting	551-014	pipe insulation, steam 15	14	20% Chrysotile, 15 Amosite
	Exterior Building	551-034	exterior surface, west side	31	None Detected
	Exterior Building	551-035	exterior surface, east side	32	None Detected
	Exterior Building	551-036	exterior surface, south side	33	None Detected

Asbestos inspection, assessment and sampling have been conducted by an EPA and state of Colorado accredited inspector in accordance with 40 CFR 763, who has completed an approved course under the Asbestos Hazard Emergency Response Act (AHERA).

Inspector's Certification No. [REDACTED]

Sylvester B. Douglas  
Name

*Sylvester Douglas*  
Signature of Inspector

**BUILDING 551**

**Present and Future Exposure Potential**

# PRESENT AND FUTURE EXPOSURE POTENTIAL

Building No: 551

Location: Rocky Flats

Page: 1

Date: December 31, 1996

Sylvester B. Douglas

Management Planner/Inspector's Name

*Sylvester Douglas*  
Signature

                      
Management Planner/Inspector ID

EXPOSURE POTENTIAL									
Present					Future				
Space No.	Asbestos Material	Friable	Present Condition	Damage Potential	No Response Action	Response Action Completed	Response Action Not Completed		
100	cementitious walls	no	no damage	low	low	low	low		
101	pipe insulation	yes	no damage	low	low	low	low to moderate		
101	pipe elbows/fittings	yes	no damage	low	low	low	low to moderate		
102	pipe insulation	yes	<1 in. ft.	low	low to moderate	low	moderate		
103	pipe insulation	yes	no damage	low	low	low	low to moderate		
104	pipe insulation	yes	no damage	low to moderate	low	low	low to moderate		
105	pipe insulation	yes	no damage	low	low	low	low to moderate		
105	9" x 9" floor tile, beneath carpet	no	no damage	low	low	low	low		

# PRESENT AND FUTURE EXPOSURE POTENTIAL (CONT.)

Building No: 551

Location: Rocky Flats

Page: 2

Date: December 31, 1996

Sylvester B. Douglas

Management Planner/Inspector's Name

*SD*

Signature

Management Planner/Inspector ID

EXPOSURE POTENTIAL						
Present				Future		
Space No.	Asbestos Material	Friable	Present Condition	Damage Potential	No Response Action	Response Action Not Completed
105A	cementitious walls	no	no damage	low	low	low
105A	9" x 9" floor tile	no	no damage	low	low	low
106	pipe insulation	yes	no damage	low to moderate	low	moderate
106	cementitious wall	no	no damage	low	low	low
106	9" x 9" floor tile, beneath carpet	no	no damage	low to moderate	low	low
107	pipe insulation	yes	no damage	low	low	low to moderate
109	pipe elbows/fittings	yes	no damage	low	low	low to moderate
111	pipe elbows/fittings	yes	1 damaged elbow/fitting	low	low	low to moderate

# PRESENT AND FUTURE EXPOSURE POTENTIAL (CONT.)

Building No: 551

Location: Rocky Flats

Page: 2

December 31, 1996

Sylvester B. Douglas

Management Planner/Inspector's Name

SD

Signature

Management Planner/Inspector ID

EXPOSURE POTENTIAL						
Present			Future			
Space No.	Asbestos Material	Friable	Present Condition	Damage Potential	No Response Action	Response Action
201	pipe insulation	yes	no damage	low	low	low to moderate
201 Platform	pipe insulation	yes	no damage	low	low	low to moderate
201 Platform	pipe elbows/fittings	yes	no damage	low	low	low to moderate

**BUILDING 551**

**Drawing**

463

**BUILDING 551**



**ASBESTOS NOTES**

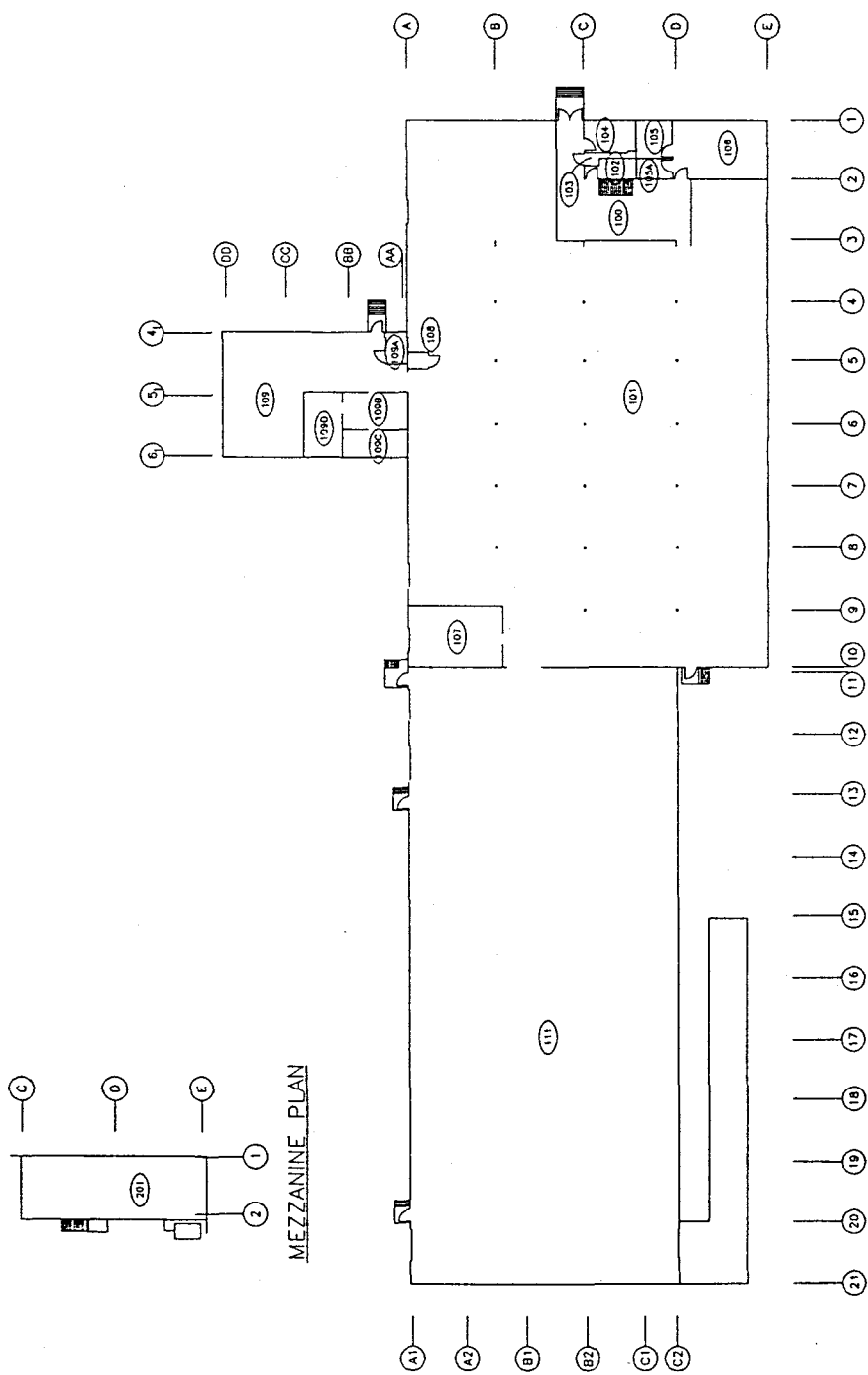
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100	walls	16, 17, 18,
101	flooring	19, 20, 21
		22, 23, 24
102	flooring	9
103	flooring	8
104	flooring	10
105	flooring, flooring	
105A	flooring, walls	3, 4, 5, 6
106	flooring, flooring;	
	walls	
107	flooring	26, 27
109	flooring	30, 34, 35,
111	flooring	36, 37
201	flooring	14

**Note:** No asbestos-containing materials were found in Spaces:

- 108
- 109A
- 109B
- 109C
- 109D

**LEGEND**

Space No.   
Wall 



FIRST PLAN

JOB NO. 08130		DATE 12/23/84		SHEET NO. ASB-1	
DR. AT		CHK. BY		JOB NO.	
DATE		REVISIONS		U.S. DEPARTMENT OF ENERGY ROCKY FLATS FIELD OFFICE GOLDEN, COLORADO 80402	
SHEET NO.		REVISIONS		BUILDING 551	

**SITEX**  
Environmental, Inc.

ASBESTOS INSPECTION

11905 Borman Drive  
St. Louis, MO 63146  
(314) 569-1119

**BUILDING 551**

**Photographs**

465

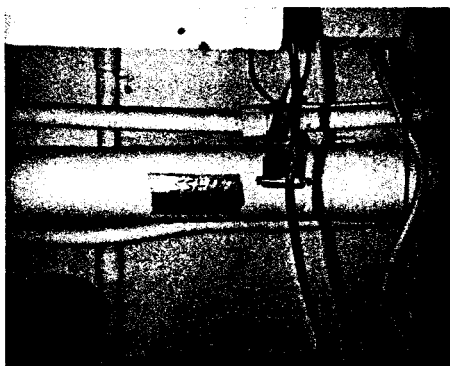




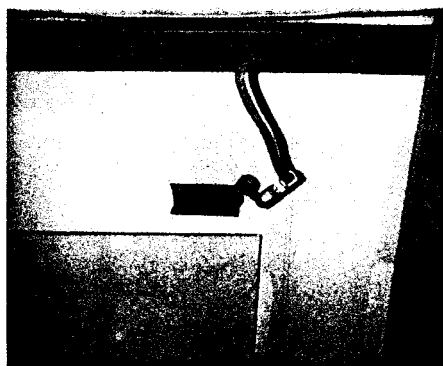
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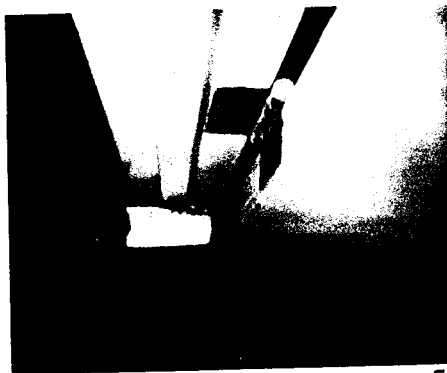
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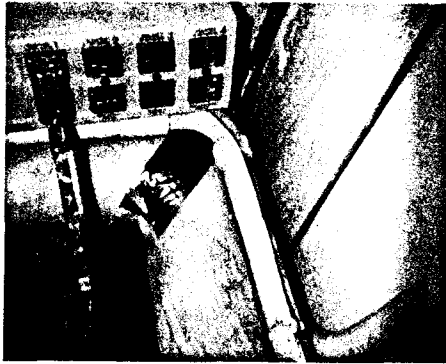
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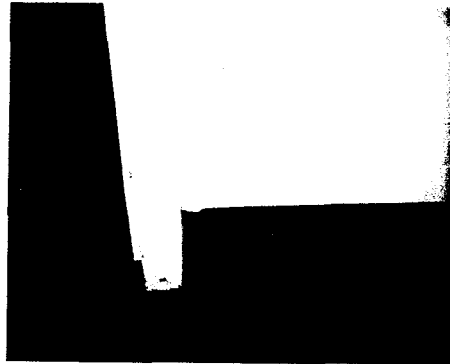
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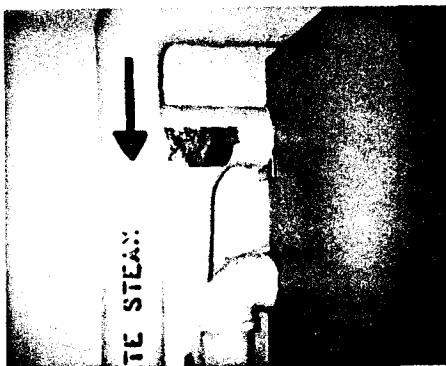
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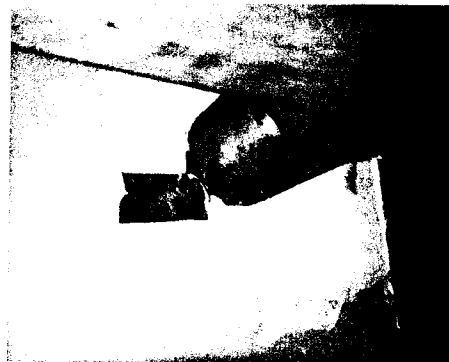
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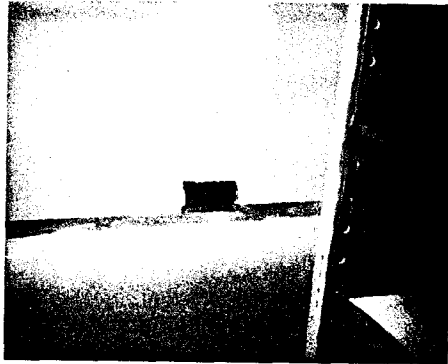
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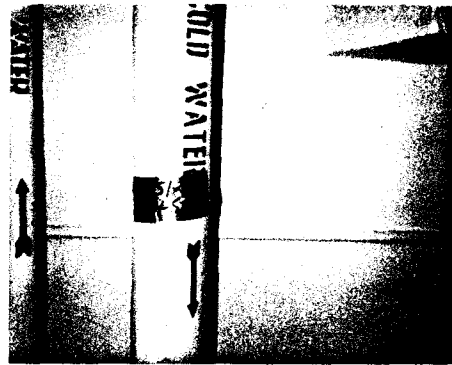
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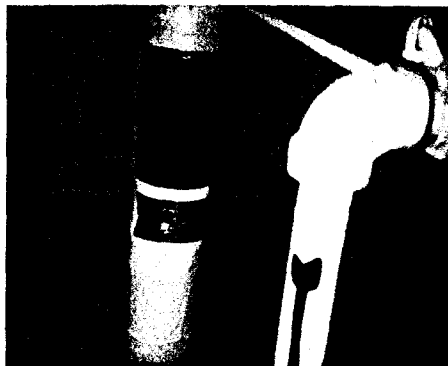
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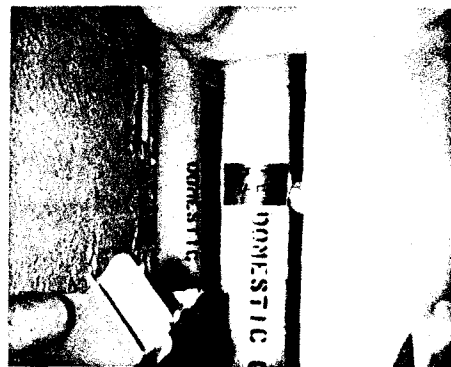
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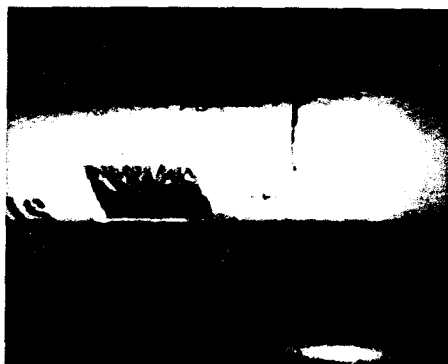
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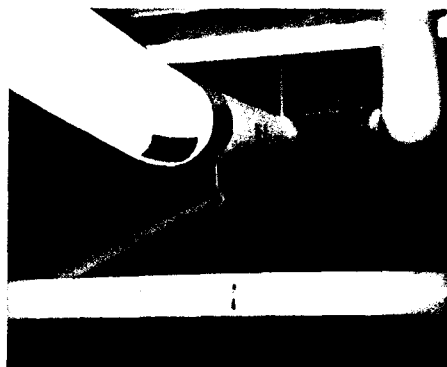
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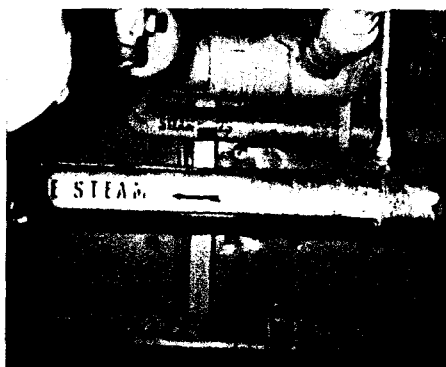
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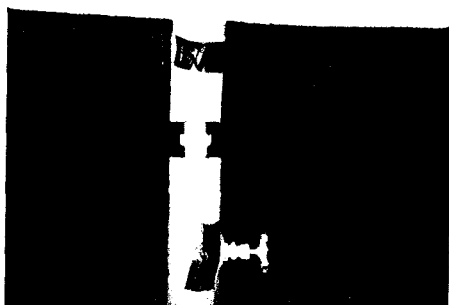
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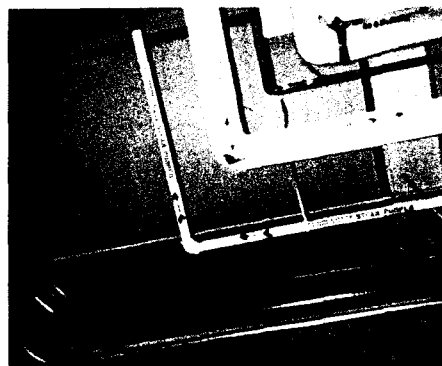
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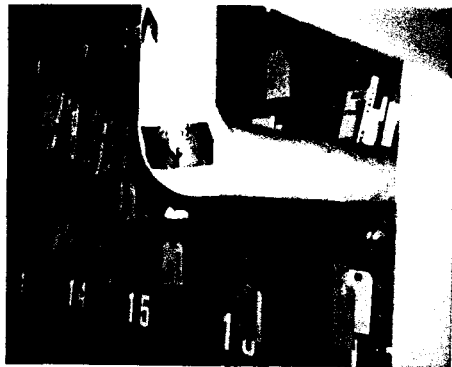
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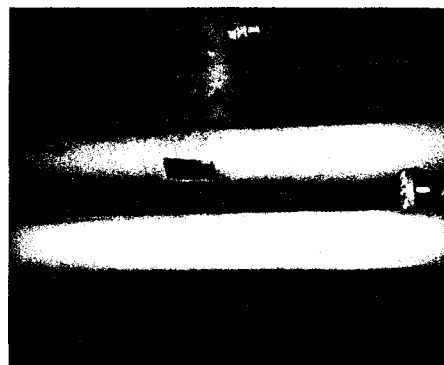
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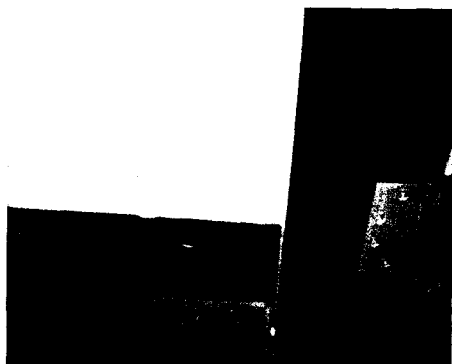
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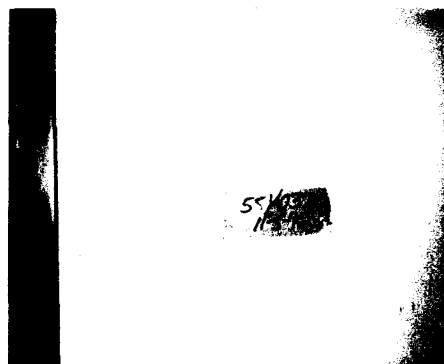
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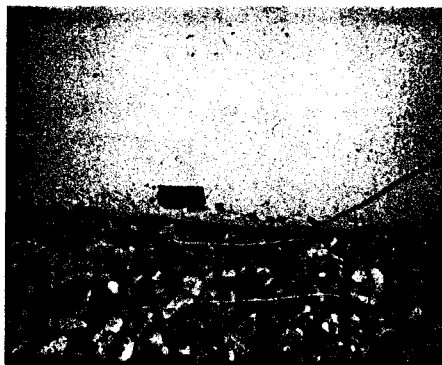
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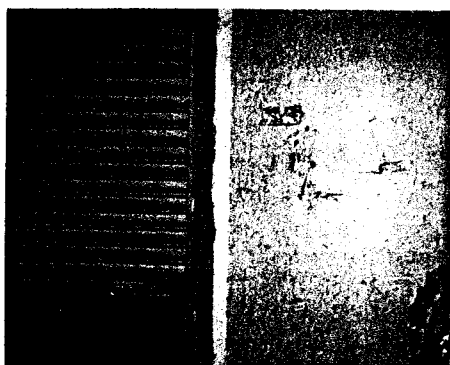
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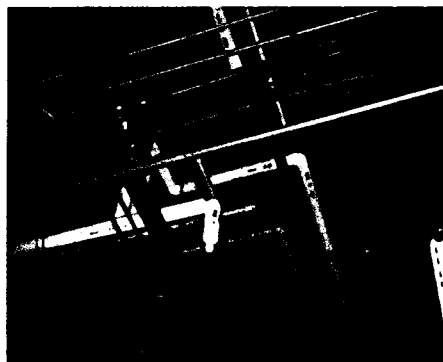
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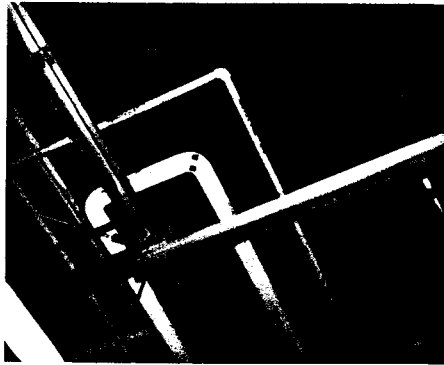
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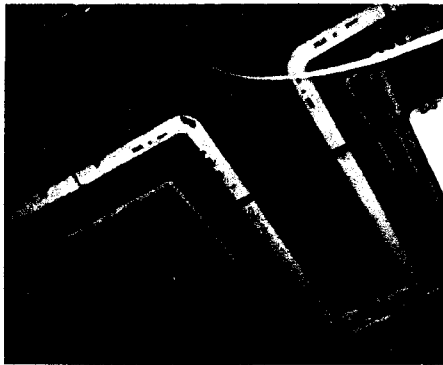
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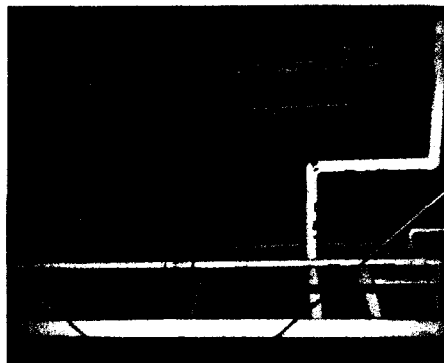
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37

## **Appendix G.1.2**

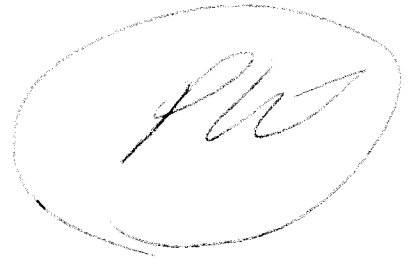
### **Historical Asbestos Characterization Reports**

**Bldg. 910**





Rocky Mountain  
Remediation Services, L.L.C.  
*. . . protecting the environment*



# **Asbestos and Lead Characterization Report**

## **Building 910 And Tank 215-D**

**Rocky Flats Environmental Technology Site**

**Prepared by:**

**Scientific Ecology Group for**

**Rocky Mountain Remediation Services**

**Revision 0**  
**April 16, 1998**

1174

## TABLE OF CONTENTS

1.0 INTRODUCTION.....	1
2.0 ASBESTOS SURVEY.....	2
2.1 Inspection Procedures.....	2
2.2 Description and Hazard Assessment of ACM.....	2
2.3 Description of Non-ACM Based on Sample Results.....	3
3.0 LEAD IN PAINT SURVEY	
3.1 Inspection Procedures.....	4
3.2 Description and Location of Lead in Paint.....	4
4.0 LEAD IN PAINT REGULATORY REVIEW	
4.1 Regulatory Review: Relocation.....	6

## APPENDICES

APPENDIX A: INSPECTOR CERTIFICATIONS

APPENDIX B: BULK ASBESTOS AND LEAD SAMPLE LAB/DATA TABLES

APPENDIX C: BULK ASBESTOS AND LEAD SAMPLE LOCATION DRAWING

475

## 1.0 INTRODUCTION

During the week of April 1-3, 1998, Building 910 and Tank 215-D were inspected for asbestos in building materials and lead in paint by Scientific Ecology Group, Colorado (SEG) staff. This information is included in this report. The purpose of this inspection was to prepare for and facilitate the upgrades or demolition of the building.

The asbestos inspection was conducted according to the guidelines set forth by the Asbestos Hazard Emergency Response Act (AHERA) and complies with the United States Environmental Protection Agency (EPA), Occupational Safety and Health Administration (OSHA) and State of Colorado regulations covering asbestos inspections.

The lead in paint inspection was conducted in accordance with the guidelines established by the US Department of Housing and Urban Development (HUD) published the Guidelines for the Evaluation and Control of Lead Based Paint Hazards in Housing pursuant the Title X of the Housing and Community Development Act of 1992.

The enclosed report contains the location and descriptions of asbestos containing building materials and of metals containing paint on building surfaces. Materials were analyzed and results in tabular form are contained in Appendix A. Each sampled building material is described as either asbestos or non-asbestos containing. Each sampled painted surface is described as either metals or non-metals containing paint.

## **2.0 ASBESTOS SURVEY**

### **2.1 Inspection Procedures**

Bulk samples were acquired to determine the presence of asbestos in building materials. Suspect materials were chosen based on historical significance or on the judgement of the accredited inspector. Each sample was assigned an individual number made up of the trailer number, the date the sample was acquired, the initials of the sampling technician, and a three digit number in sequence. Quality Control samples are designated in the Bulk Sample Data Table as (QC).

A total of 20 samples were acquired from suspected materials. These materials included thermal systems insulation and miscellaneous materials. All samples were acquired in a random manner representative of the suspected material.

All bulk samples were analyzed by Reservoirs Environmental Services, Inc. (RESI) of Denver, Colorado. RESI is accredited through the National Institute of Standards and Technology (NIST) and participates in the NIST National Voluntary Laboratory Accreditation Program (NVLAP) as required by the EPA. Bulk samples were analyzed by Polarized Light Microscopy (PLM) in compliance with guidelines established by the EPA 40 CFR 763, Subpart F, Appendix A. Asbestos concentrations were visually estimated and reported in percent by layer of each sample.

Colorado Regulation #8 provides regulatory guidance for asbestos control. As such, this regulation requires Point Count Analysis for certain conditions and types of materials. Should a friable material analysis by PLM determine a detectable but less than 1% asbestos content, then that material must have Point Count Analysis. The bulk Sample Data Table will indicate such analysis with results in (parentheses).

### **2.2 Description and Hazard Assessment of ACM**

#### **2.2.1 Vapor Barrier Mastic on Pipes and Tank Insulation**

Approximately 700 linear feet of Vapor Barrier Mastic coating on the Thermal Systems Insulation on the pipes associated with the steam heating system for the building. This system is located on both levels of the facility. Steam heaters are located in rooms 101, 102, 104 and the basement. At the time of inspection, this mastic was in good condition, with minor damage in isolated locations.

The EPA/AHERA hazard assessment category for the vapor barrier mastic is "Thermal Systems insulation in good condition". The appropriate response action for the insulation is to maintain in good condition, periodically survey the system and repair observed damage. The insulation must be removed prior to demolition.

## **2.3 Description of Materials Testing Negative for Asbestos**

### **2.3.1 Drywall, Tape and Joint Compound**

The drywall system located on the north wall of room 102 was sampled in three locations. Analysis indicates no detectable levels of asbestos.

### **2.3.2 Mudded joints, End Caps and Tank Insulation**

The mudded joints, valve flanges, tank and tank end cap insulation found throughout the facility was sampled in seven locations. Analysis indicated a trace by PLM analysis. Point Counting results indicate no asbestos present. Please note that the Vapor Barrier Mastic associated with the pipe insulation on the steam heating system throughout the facility does contain asbestos.

### **2.3.3 Floor Filler and Carpet Adhesive**

The floor filler and carpet adhesive found under the carpeting in room 102 were sampled at one location. Analysis indicates no detectable levels of asbestos in these materials.

### **2.3.4 Brushed Textured Skim, Exterior**

The tan brushed textured skim on the surface of the exterior wall cinderblock was sampled in five locations. Analysis indicates no detectable levels of asbestos. Please note that penetrations were made into the cinderblock to determine the presence of loose filler in the cinderblock. At the time of inspection, no filler was discovered.

### **2.3.5 Rubberized Wall/Pipe Penetration Filler**

The rubberized filler for the wall penetrations was sampled in one

478

location. Analysis indicates no detectable levels of asbestos.

### **2.3.6 Tank Insulation and Textured Coating**

The foam tank insulation and white textured coating on the exterior of tank 215-D was sampled for asbestos. Analysis indicated no detectable levels of asbestos in these materials.

## **3.0 LEAD IN PAINT SURVEY**

### **3.1 Inspection Procedures**

Bulk paint samples were acquired from building surfaces to determine the presence of lead and other metals. Suspect paints were chosen based on historical significance or on the judgement of the accredited inspector.

A total of 11 samples were acquired from suspected painted surfaces. These surfaces included the interior and exterior paints, tank and tank stanchions, floor and stair paints. Samples were chosen for their distinct color variations. All samples were acquired in a random manner representative of the individual color.

Based on historical data from other site structures, the bright red paint associated with fire and safety markings was assumed to be metals containing.

All paint samples were analyzed by the Site Laboratory at Building 559. This lab is properly accredited for bulk paint analysis through the American Industrial Hygiene Association. Bulk paint samples were analyzed with Atomic Absorption Spectroscopy (EPA Method SW 846-3050/7420). Results for the purposes of determining occupational exposure are reported in parts per million.

### **3.2 Lead in Paint Locations and Descriptions**

Contained herein is a summary of the results of bulk samples for lead/metals in the paint on Building 910 and on Tank 215-D. Appendix B contains a Paint Chip Bulk Sample Data Table that summarizes the laboratory findings. Appendix B also includes copies of the laboratory data that details the analytical findings. TCLP analytical results are a valuable aid in waste stream determination, while ICP analytical results are a valuable aid to assessing worker health and safety.

Unless otherwise noted, all paints surveyed were in good condition.

### **3.2.1 Blue Paint on Metal Tank 1523, Stanchions and Base**

The blue paint on red primer on Tank 1523, stanchions and base tested positive for detectable lead and other metals under ICP analysis, including chromium and zinc. The paint on the base mounting was flaking and peeling in several locations at the time of inspection.

### **3.2.2 Tan Paint on Metal Tank 1535, Stanchions and Base**

The tan paint on red primer on Tank 1535, stanchions and base tested positive for lead, chromium, zinc and other metals under ICP analysis.

TCLP analytical results indicate chromium exceeding EPA Regulatory Levels. As such, disposal would require meeting RCRA hazardous waste disposal guidelines.

### **3.2.3 Green Paint on Metal Tank 1531, Stanchions and Base**

The green paint on red primer on Tank 1531, stanchions and base tested positive for detectable levels of lead, chromium, zinc and other metals under ICP analysis.

### **3.2.4 Grey Paint on Metal Stanchions (Tank 1524)**

The grey paint on red primer on the metal stanchions attached to Tank

480

1524 tested positive for detectable levels of lead, chromium, zinc and other metals under ICP analysis.

TCLP analytical results indicate chromium exceeding EPA Regulatory Levels. As such, disposal would require meeting RCRA hazardous waste disposal guidelines.

### **3.2.5 Yellow Paint on Metal Stairs**

TCLP analytical results indicate lead exceeding EPA Regulatory Levels. As such, disposal would require meeting RCRA hazardous waste disposal guidelines.

The yellow paint on red primer on the west basement stairs tested positive for detectable levels of lead, chromium, zinc and other metals under ICP analysis.

### **3.3.6 Grey Paint on Basement Concrete Floor**

The grey paint on the basement concrete floor tested positive for detectable levels of lead, chromium, zinc and other metals under ICP analysis.

### **3.3.7 White Paint on Basement Concrete Walls**

The white paint on the basement concrete walls tested positive for detectable levels of lead, chromium, zinc and other metals under ICP analysis. This paint is prevalent on the walls and ceiling throughout Building 910.

### **3.3.8 Off-White on Exterior Cinderblock Walls**

The off-white paint on the exterior cinderblock walls tested positive for detectable levels of lead, chromium, zinc and other metals under ICP analysis.



### **3.3.9 Brown-red on Metal Exterior of Gen-3**

Due to the thinness of the application, adequate media was not acquired for TCLP analysis. However, the elevated level of chromium in the ICP analysis would indicate leachability. Prudence would dictate treating this paint as a RCRA hazardous waste.

The brown-red paint on the exterior sheet metal skin of Gen-3, located on the west side of B910 tested positive for detectable levels of lead, chromium, zinc and other metals under ICP analysis.

### **3.3.10 White Textured Paint on Tank 215D**

The white textured paint on Tank 215D, located to the west of Building 910, tested positive for detectable levels of lead, chromium, zinc and other metals under ICP analysis.

Mercury was detected using ICP analysis. Mathematical calculations indicate mercury above RCRA TCLP standards.

## **4.0 LEAD/METALS IN PAINT REGULATORY REVIEW AND RECOMMENDATIONS**

### **4.1 Regulatory Review: Relocation/Recycling**

In June, 1995, the US Department of Housing and Urban Development (HUD) published the Guidelines for the Evaluation and Control of Lead Based Paint Hazards in Housing pursuant to Title X of the Housing and Community Development Act of 1992. The document replaced the 1990 publication Lead Based Paint: Interim Guidelines for Hazard Identification and Abatement in Public and Indian Housing. The new publication addresses lead hazards posed by paint, dust and soil in the residential environment. It provides specific guidelines for XRF and bulk paint sampling in housing including sampling locations, sample collection procedures and laboratory analysis procedures. In addition, it provides guidelines for hazard

482

assessment of lead based paint, abatement of lead based paint, and clearance sampling. The guidelines define lead based paint as paint that contains 1.0 milligrams or more of lead per square centimeter of surface area. Although the guidelines act as a good reference for lead paint inspections, they do not apply to non-HUD homes and are not enforceable by law unless a Federal, State or RFETS directive requires adherence to all or parts of the publication.

OSHA's CFR 1926.62 applies to the disturbance or demolition of structures that contain detectable levels of lead in paint. Detection limits of 10 parts per million are commonly the lowest limit normally achievable by standard laboratory analysis. At or below this limit OSHA believes exposure poses limited risk to workers.

However, if the employer suspects that lead may be present, the employee protection and safety precautions as outlined in CFR 1926.62 apply, especially employee medical surveillance and monitoring.

Other metals in paint, such as chromium and zinc, also require special precautions for worker health and safety. Consult a Health and Safety Professional prior to and during planning and implementation of activities that may disturb paints reported as or suspected of containing metals.

Disposal of materials coated with paints must pass Toxicity Characteristic Leaching Procedure (TCLP). Should analysis indicate metals or other contaminants listed as EPA Hazardous Waste above or at Regulatory Levels, RCRA regulatory drivers must be met for disposal.

Metals coated with paints, such as tanks and pipes, may be recycled without major regulatory requirements. Due diligence may require notification to the receiver of the content of the paints.

483

### ASBESTOS BULK SAMPLE DATA TABLE

Sample Number	Sample Description and Location	Lab Result PLM (PC)
910-980325-MS-012	TSI on steam condensate tank D-13; from basement; 15' N of S wall, 25' E of W wall, NE corner.	A: ND B: ND C: ND
910-980325-MS-013	TSI on a stem condensate pipe; from basement, Send of Tank D-13, 3' S of S end, 3' from the floor.	A: ND B: ND
910-980325-MS-014	TSI (A), (B) VBM (C) on a steam condensate valve; from basement, at SW corner of Tank D-13.	A: ND B: ND C: 8%
910-980325-MS-015	TSI (A) (B) (D) (E) mud (C) on a steam surge tank; from basement, 15' N of S wall, 28' E of W wall, 5' from the floor.	A: ND B: ND C: TR (ND) D: ND E: ND
910-980325-MS-016	TSI (A) (C) VBM (B) on a steam supply pipe fitting; from basement, 35' E of W wall, 2' N of S wall, 3' from the floor.	A: ND B: 8% C: ND
910-980325-MS-017	TSI (B) VBM (A) on a chilled water supply pipe valve; from basement, 30' E of W wall, 25' N of S wall, 12' from the floor.	A: 5% B: ND
910-980325-MS-018	TSI (B) (C) VBM (A) on a chilled water supply pipe fitting; from room 101, 10' N of door 11, 2' W of E wall, 10' from the floor.	A: 8% B: ND C: ND

August 6th, 1997 mns.T981rpt

484

ASBESTOS AND LEAD  
CHARACTERIZATION REPORT  
FOR BUILDING 910

RF/RMRS-97-035  
TOC, Rev. 0, Page 10 of 14  
Date Effective: 08/06/97

Sample Number	Sample Description and Location	Lab Result PLM (PC)
910-980325-MS-019	Brushed textured skim on exterior wall cinderblock; from S wall, 15' W of SE corner, 4' from the ground. Note: block void not filled here.	A: ND
910-980325-MS-020	Brushed textured skim on exterior wall cinderblock; from S wall, 8' E of SW corner, 4' from the floor. Note; block void grouted here.	A: ND
910-980325-MS-021	Brushed textured skim on exterior wall cinderblock; from W wall, 9' N of SW corner, 4' from the ground. Note: block void not filled here.	A: ND
910-980325-MS-022	Brushed textured skim on exterior wall cinderblock; from N wall, 15' E of NW corner, 4' from the ground. Note: block void grouted here.	A: ND
910-980325-MS-023	Brushed textured skim on exterior wall cinderblock; from E wall, 11' S of NE corner, 5' from the ground. Note: block void empty here.	A: ND
910-980325-MS-024	TSI (B) and white rubberized coating (A); from Tank 215-D west of 910, S end, 20' E of bldg, 4' from the ground.	A: ND B: ND
910-980325-MS-025	TSI (A) (B) (C) mud (D) on an engine water supply pipe fitting; from room 101, 25' W of E wall, 20' N of S wall, 8' from the floor.	A: ND B: ND C: ND D: ND
910-980325-MS-026	Floor patch and carpet adhesive; from room 102, at SW corner of door 101.	A: ND
910-980325-MS-027	Drywall (E), tape (C) (A) and joint compound (B) with foam (D); from N wall room 102, 10' W of NE corner, 5' from the floor.	A: ND B: ND C: ND D: ND E: ND

485

ASBESTOS AND LEAD  
CHARACTERIZATION REPORT  
FOR BUILDING 910

RF/RMRS-97-035  
TOC, Rev. 0, Page 11 of 14  
Date Effective: 08/06/97

Sample Number	Sample Description and Location	Lab Result PLM (PC)
910-980325-MS-028	Drywall (D), tape (A) and joint compound (B) with foam (C); from N wall room 102, 8' W of NE corner, 3' from the floor.	A: ND B: ND C: ND D: ND
910-980325-MS-029	Drywall (C), tape (A) and joint compound (B); from N wall room 102, at NW corner, 4' from the floor.	A: ND B: ND C: ND
910-980325-MS-030	Foam and fiber wall filler; from pipe penetration in room 103, 3' S of NW corner, 12' from the floor.	A: ND
910-980325-MS-031 (QA)	Drywall (D), tape (B) (A) and joint compound (C) with foam (E); from N wall room 102, 8' W of NE corner, 3' from the floor.	A: ND B: ND C: ND D: ND

Note: ND means None Detected; TR means Trace

### PAINT CHIP BULK SAMPLE DATA TABLE

Sample Number	Sample Description and Location	Lab Result TCLP * (ICP)
910-980331-MS-001	Blue over red primer on metal; from basement, north central, NDT Tank 1523, west side, 3 locations on tank post and base.	ND (lead, others)
910-980331-MS-002	Tan over red primer on metal, from basement, east central, NDT Tank 1535, south side, 3 locations on tank, post and base.	chromium (lead, others)
910-980331-MS-003	Green over red primer on metal; from basement, south central, NDT Tank 1531, west side, 3 locations on tank, post and base.	ND (lead, others)
910-980331-MS-004	Grey/red primer on metal; from basement, northwest, NDT Tank 1524 stanchion, far south post.	chromium (lead, others)
910-980331-MS-005	Yellow/red primer on metal; from west basement stairs, south side at base.	lead (lead, others)
910-980331-MS-006	Grey on concrete basement floor; near drain, 30' east of west wall, 20' north of the south wall.	ND (lead, others)
910-980331-MS-007	White on concrete basement wall; from west wall, 15' north of southwest corner, 4' from the floor.	ND (lead, others)
910-980331-MS-008	Off-white on exterior cinderblock; from south wall, 15' east of southwest corner, 4' from the ground.	ND (lead, others)
910-980331-MS-009	Brown-red on sheet metal; from exterior of Gen 3, south side of 910, 2' west of southeast corner, 4' from base.	NA** (lead, others)
910-980331-MS-010	White textured on foam insulation; from Tank 215D, west of 910, east side at base.	ND (lead, others)
910-980331-MS-011 (QA)	White textured on foam insulation; from Tank 215D, west of 910, east side at base.	mercury (lead, others)

Note: ND means None Detected.

\* Lab Results identify those metals exceeding EPA Regulatory Level

\*\*Not Analyzed

487

## APPENDIX A

## Statement of Certification

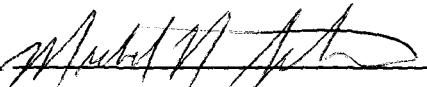
The asbestos and lead building inspection evaluation performed on **Building 910 and tank 215-D** was performed in accordance with applicable regulations, and employed only EPA AHERA accredited personnel.

Inspector: Michael N. Schluterbusch

EPA Accreditation: [REDACTED]

State of Colorado Certification: [REDACTED]

I hereby attest and certify that I performed the asbestos and lead building inspection evaluation on trailers **Building 910 and tank 215-D** at Rocky Flats Environmental Technology Site

Signature:  Date: 11/7/98



## **Appendix G.2**

### **RLC Asbestos Characterization Report**

**Bldg. 551, 662, 709, 910, and 904 Pad**

**Appendix G.2.1**

**RLC Asbestos Characterization Report**

**Bldg. 551, 662, 709, 910, and 904 Pad**

**Chain of Custody**

59726-1

Kaiser-Hill

## CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. #

99Z7116#001

Page 1 of 2

FAX

Collector: Andre Gonzalez

RIN 99Z7116

Contact/Requester  
Andre Gonzalez  
Sampling Origin  
551 and 910

Project Title

Logbook No.

To (Lab) Reservoirs Environmental

Method of Shipment  
Customer hand-carry to 881

Protocol

POSSIBLE SAMPLE HAZARDS/REMAR. S

SPECIAL INSTRUCTIONS

Hold Time

Total Activity Exemption: Yes ☐ No ☐

Bottle No.	Customer Number	Matrix	Date	Time	Location	No/Type Container	Sample Analysis	Preservative ; Packing
99Z7116-001.001	551-99-04-27-05-01	IH			551	1-NA N/A	IH02B001 (Asbestos by PLM) [Routine]	N/A None
99Z7116-002.001	551-99-04-27-05-02	IH			551	1-NA N/A	IH02B001 (Asbestos by PLM) [Routine]	N/A None
99Z7116-003.001	551-99-04-27-05-03	IH			551	1-NA N/A	IH02B001 (Asbestos by PLM) [Routine]	N/A None
99Z7116-004.001	551-99-04-27-05-04	IH			551	1-NA N/A	IH02B001 (Asbestos by PLM) [Routine]	N/A None
99Z7116-005.001	551-99-04-27-05-05	IH			551	1-NA N/A	IH02B001 (Asbestos by PLM) [Routine]	N/A None
99Z7116-006.001	551-99-04-27-05-06	IH			551	1-NA N/A	IH02B001 (Asbestos by PLM) [Routine]	N/A None
99Z7116-007.001	551-99-04-27-05-07	IH			551	1-NA N/A	IH02B001 (Asbestos by PLM) [Routine]	N/A None

Relinquished By:	Date/Time	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
Relinquished By:	Date/Time	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
Relinquished By:	Date/Time	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
Relinquished By:	Date/Time	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
FINAL SAMPLE DISPOSITION				Disposed By			
Disposal Method (e.g. Return to customer, per lab procedure, used in process)				Date/Time			

492

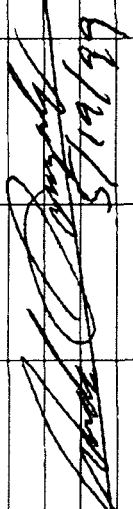
# Rocky Flats Environmental Technology Site

Golden, CO 80402-0464

Safety and Hygiene Chain of Custody Record and Analysis Request

60177

9927560

Name of Originator: A. Gonzalez		Title: D.H.C.		Bldg/Ext: 444/46227		Date: 5/19/99		Page 1 of 1	
SAMPLE NUMBER Bldg/V/W/D/P#/S#	ANALYZE FOR	VOLUME liters	SAMPLE TIME/	MEDIA	P A B	Personal Area Bulk	REMARKS	Lab Number	
662-99-05-11-05-01	Asbestos	Floor tile			B		TH02B001		
662-99-05-11-05-02		"							
662-99-05-11-05-03		"							
662-99-05-13-05-04		Ceiling Tile							
662-99-05-13-05-05		"					Samples disposed of in 581 waste- 992		
662-99-05-13-05-06		"							
662-99-05-13-05-07		Drywall							
662-99-05-13-05-08		"							
662-99-05-13-05-09		"							
 5/19/99									
Relinquished by <i>A. Gonzalez</i>	Received by <i>Chuck Goff</i>	Time/Date 2:30 5/14/99	Relinquished by	Received by	Time/Date				
Relinquished by 581 Asbestos Cabinet	Received by <i>Paul D. Kelly</i>	Time/Date 8:00 AM 5/20/99	Relinquished by	Received by	Time/Date				
Relinquished by	Received by	Time/Date	Relinquished by	Received by	Time/Date				
Relinquished by	Received by	Time/Date	Relinquished by	Received by	Time/Date				
Report and Billing Instruction						Seal# (Release #)			
Kaiser-Hill <input type="checkbox"/> Verbal To: <i>A. Gonzalez</i> RMRS <input checked="" type="checkbox"/> Fax To: <i>XSSIS</i> SSOC <input type="checkbox"/> Report To: <i>KH</i> DynCorp <input type="checkbox"/> Bill To: <i>KH</i> WSI <input type="checkbox"/> P.O.#/Release: <i>Receivars</i> Lab:						Condition of Seal: <input type="checkbox"/> Broken <input type="checkbox"/> Unbroken Signature: Comments:			

# Rocky Flats Environmental Technology Site

Golden, CO 80402-0464

RFP F 3701.32 (7/95)  
Formerly RF-47530

Safety and Hygiene Chain of Custody Record and Analysis Request

9927769

Page 1 of 1

Name of Originator: A. Gonzalez Title: PHS

Bldg/Ext: 444/46727 Date: 5/25/99

SAMPLE NUMBER Bldg/Y/M/D/P#S#	ANALYZE FOR	VOLUME liters	SAMPLE TIME/	MEDIA		P		REMARKS	Lab Number
				A	B	A	B		
709-99-05-24-05-01	Asbestos	NA	NA	NA	B			Initials	
709-99-05-24-05-02									
709-99-05-24-05-03									
709-99-05-24-05-04									
709-99-05-24-05-05									
<u>John Gonzalez</u> 5/25/99									
<div style="display: flex; justify-content: space-between;"> <div> <p>Relinquished by: <u>John Gonzalez</u></p> <p>Relinquished by: <u>Paul D. [Signature]</u></p> <p>Relinquished by: <u>Paul D. [Signature]</u></p> <p>Relinquished by: <u>Paul D. [Signature]</u></p> </div> <div> <p>Received by: <u>Paul D. [Signature]</u></p> <p>Received by: <u>Paul D. [Signature]</u></p> <p>Received by: <u>Paul D. [Signature]</u></p> <p>Received by: <u>Paul D. [Signature]</u></p> </div> <div> <p>Time/Date: 5:44 5-25-99</p> <p>Time/Date: 8:00A 5-25-99</p> <p>Time/Date: [Blank]</p> <p>Time/Date: [Blank]</p> </div> </div>									
<div style="display: flex; justify-content: space-between;"> <div> <p>Report and Billing Instruction</p> <p>Kaiser-Hill <input type="checkbox"/> Verbal To: <u>A. Gonzalez</u></p> <p>RMRS <input checked="" type="checkbox"/> Fax To: <u>5513</u></p> <p>SSOC <input type="checkbox"/> Report To: <u>KH</u></p> <p>DynCorp <input type="checkbox"/> Bill To: <u>KH</u></p> <p>WSI <input type="checkbox"/> P.O.#/Release: <u>NA2200A1</u></p> <p>Lab: <u>Reservoirs</u></p> </div> <div> <p>Analysis Request</p> <p>Industrial Hygiene Sample <input type="checkbox"/></p> <p>Rush <input type="checkbox"/> Other <input type="checkbox"/></p> <p>Asbestos Samples <input type="checkbox"/></p> <p>Standard Service <input type="checkbox"/> 24 Rush <input type="checkbox"/></p> </div> <div> <p>Seal# (Release #)</p> <p>Condition of Seal: <input type="checkbox"/> Broken <input type="checkbox"/> Unbroken</p> <p>Signature: _____</p> <p>Comments: _____</p> </div> </div>									

White - Return to Originator

Yellow - Lab Copy

Green - Sample Custodian

Blue - Originator

2694



# Rocky Flats Environmental Technology Site

Golden, CO 80402-0464

RFP F 3791.32 (7/95)  
Formerly RF-47530

Safety and Hygiene Chain of Custody Record and Analysis Request

9927116

Bldg/Ext: 444/K6727 Date: 4/29/99 Page 1 of 1

Name of Originator: A. Gonzalez Title: PH + S

SAMPLE NUMBER Bldg/Y/M/D/P#S#	ANALYZE FOR	VOLUME liters	SAMPLE TIME	MEDIA	P A B	Personal Area Bulk	REMARKS	Lab Number
551-99-04-27-05-01	Asbestos	N/A	N/A	N/A			214028001 (PLM)	
561-99-04-27-05-02								
551-99-04-27-05-03								
551-99-04-27-05-04								
551-99-04-27-05-05								
551-99-04-27-05-06								
551-99-04-27-05-07								
910-99-04-27-05-01								
910-99-04-27-05-02								
910-99-04-27-05-03								

Relinquished by <i>Paul H. W. Taylor</i>	Received by <i>Paul H. W. Taylor</i>	Time/Date 1500 04/29/99	Relinquished by	Received by	Time/Date
Relinquished by <i>Paul H. W. Taylor</i>	Received by <i>Paul H. W. Taylor</i>	Time/Date 0910 04/29/99	Relinquished by	Received by	Time/Date
Relinquished by <i>Paul H. W. Taylor</i>	Received by <i>Paul H. W. Taylor</i>	Time/Date 1508 4/29/99	Relinquished by	Received by	Time/Date
Relinquished by <i>Paul H. W. Taylor</i>	Received by <i>Paul H. W. Taylor</i>	Time/Date 845 5-4-99	Relinquished by	Received by	Time/Date

Report and Billing Instruction	Analysis Request	Seal# (Release #)
Verbal To: A. Gonzalez	Industrial Hygiene Sample	Condition of Seal: <input type="checkbox"/> Broken <input type="checkbox"/> Unbroken
Fax To: K5513	Rush <input type="checkbox"/> Other <input type="checkbox"/>	Signature: _____
Report To: A. Gonzalez	Asbestos Samples	Comments: _____
Bill To: KH	<input type="checkbox"/> 24 Rush <input type="checkbox"/> 2 Rush	
P.O.#/Release: _____		
Lab: Reservoirs		

White - Return to Originator Yellow - Lab Copy Green - Sample Custodian Blue - Originator

1496

06561277

C.O.C. #

99Z8273#001

# CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Collector GONZALEZ, ANDRE		Contact/Requester GONZALEZ, ANDRE	Telephone No. 303-966-6636	MSDN	FAX	Page 1 of 1
RUN 99Z8273	Sampling Origin 904	Logbook No.	Purchase Order/Charge Code NG2200A1			
Project Title			Ice Chest No.	Temp.		
To (Lab)	Reservoirs Environmental	Method of Shipment customer hand-carried to 881, 6/18/99	Bill of Lading/Air Bill No.			
Protocol			Offsite Property No.			

SPECIAL INSTRUCTIONS						Hold Time		Total Activity Exempt Ion:
ee-after bulk asbestos analysis - PLM								YES NO
POSSIBLE SAMPLE HANDLING REMARKS								
Bottle No.	Customer Number	Matrix	Date	Time	Location	No/Type Container	Sample Analysis	Preservative ; Packing
99Z8273-001.001	904-99-06-17-05-01	IH			904	1-NA N/A	IH02B001 (Asbestos by PLM) [Routine]	N/A None
99Z8273-002.001	904-99-06-17-05-02	IH			904	1-NA N/A	IH02B001 (Asbestos by PLM) [Routine]	N/A None
99Z8273-003.001	904-99-06-17-05-03	IH			904	1-NA N/A	IH02B001 (Asbestos by PLM) [Routine]	N/A None
99Z8273-004.001	904-99-06-17-05-04	IH			904	1-NA N/A	IH02B001 (Asbestos by PLM) [Routine]	N/A None
Relinquished By:	Date/Time	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time	
Relinquished By:	Date/Time	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time	
Relinquished By:	Date/Time	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time	
Relinquished By:	Date/Time	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time	
Disposal Method (e.g., Return to customer, per lab procedure, used in process)							Disposed By	Date/Time
<b>FINAL SAMPLE DISPOSITION</b>								

5





**Appendix G.2.2**

**RLC Asbestos Characterization Report**

**Bldg. 551, 662, 709, 910, and 904 Pad**

**Radiological Release Survey Results**

COPY

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

ORIG

INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE	Survey Type: Contamination Survey
Model BC-4	Model BC-4	Model SAC-4	Building: 551
Serial # 838	Serial # 874	Serial # 959	Location: Waste House
Cal Due 7/13/99	Cal Due 6/7/99	Cal Due 7/5/99	Purpose: CHARACTERIZATION SURVEYS
Bkg. 39	Bkg. 38	Bkg. 0.2	RWP #: - NA
Efficiency 25%	Efficiency 25%	Efficiency 33%	Date: 64-27-99 Time: 1800
MDA <200	MDA <200	MDA <20	
Mfg. EBERLINE	Mfg. NE TECH	Mfg. NE TECH	RCT: Rex Snyder 1 [Signature]
Model SAC-4	Model ELECTRA	Model ELECTRA	Print name Signature
Serial # 1188	Serial # 1682	Serial # 1682	
Cal Due 6/16/99	Cal Due 8-12-99	Cal Due 8-12-99	RCT: N T A
Bkg. 0.2	Bkg. 3	Bkg. 496	Print name Signature Emp. #
Efficiency 33%	Efficiency 22.2%	Efficiency 31.1%	
MDA <20	MDA 49	MDA 318	

PRL #: \_\_\_\_\_  
Comments: Asbestos Sampling Pre + Post Survey Results + Sample Survey

All Results Are In dpm/100cm2

SURVEY RESULTS

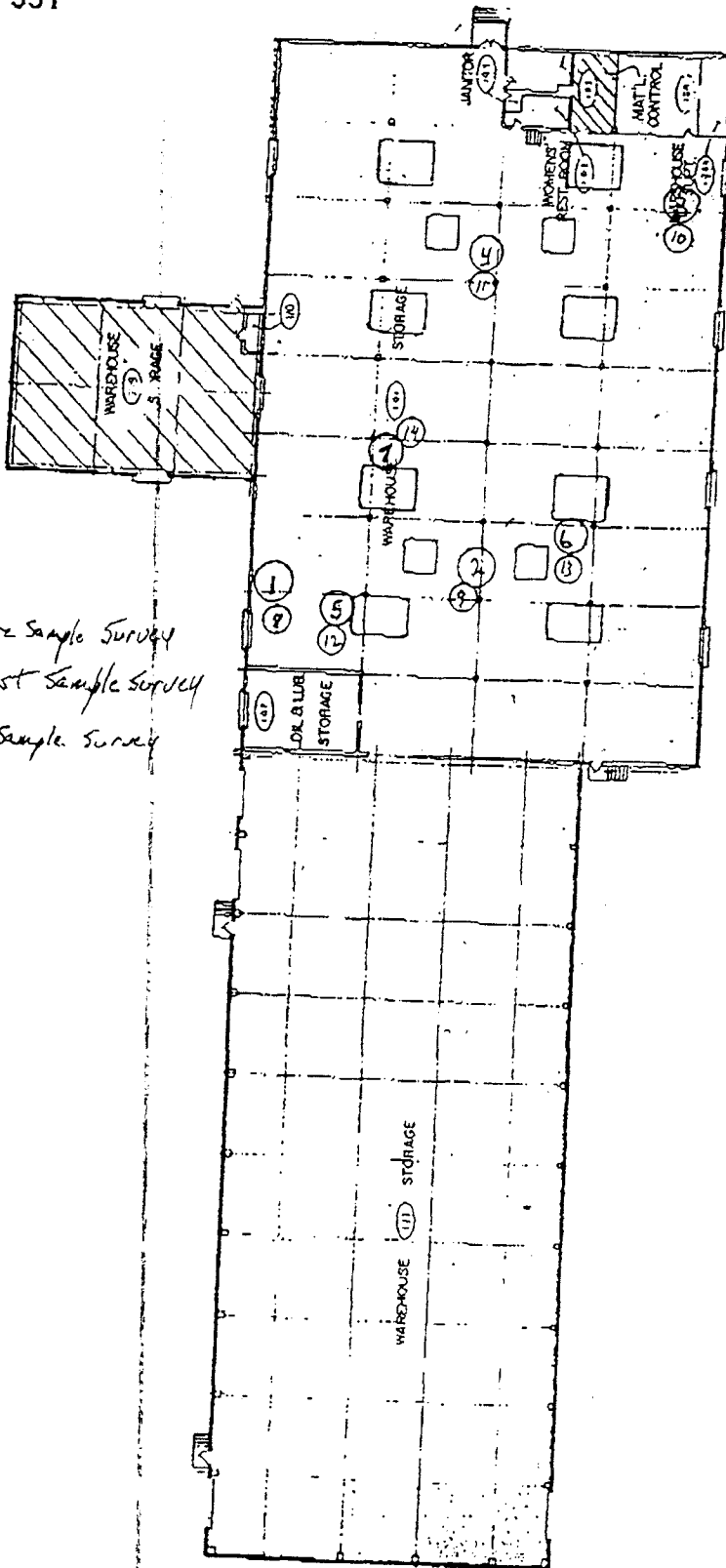
Removable		Direct		Removable		Direct	
Alpha	Beta	Alpha	Beta	Alpha	Beta	Alpha	Beta
1. < 20	< 200	< 49	831	23. /	/	/	/
2. < 20	< 200	< 49	< 318	24. /	/	/	/
3. < 20	< 200	< 49	< 318	25. /	/	/	/
4. < 20	< 200	< 49	801	26. /	/	/	/
5. < 20	< 200	< 49	< 318	27. /	/	/	/
6. < 20	< 200	< 49	< 318	28. /	/	/	/
7. < 20	< 200	< 49	< 318	29. /	/	/	/
8. < 20	< 200	< 49	642	30. /	/	/	/
9. < 20	< 200	< 49	< 318	31. /	/	/	/
10. < 20	< 200	< 49	570	32. /	/	/	/
11. < 20	< 200	< 49	342	33. /	/	/	/
12. < 20	< 200	< 49	< 318	34. /	/	/	/
13. < 20	< 200	< 49	< 318	35. /	/	/	/
14. < 20	< 200	< 49	< 318	36. /	/	/	/
15. < 20	< 200	< 49	< 318	37. /	/	/	/
16. < 20	< 200	< 49	< 318	38. /	/	/	/
17. < 20	< 200	< 49	< 318	39. /	/	/	/
18. < 20	< 200	< 49	< 318	40. /	/	/	/
19. < 20	< 200	< 49	< 318	41. /	/	/	/
20. < 20	< 200	< 49	< 318	42. /	/	/	/
21. < 20	< 200	< 49	< 318	43. /	/	/	/
22. A		A		44. /	/	/	/

Date: 4/28/99 RS Supervision: LN Cooper Print Name [Signature] Signature

# ROCKY PLAINS ENVIRONMENTAL TECHNOLOGY SITE

## RADIOLOGICAL SAFETY Drawing Showing Survey Points

Building 551



#1 to 7 = Pre Sample Survey  
 #8 to 14 = Post Sample Survey  
 #15 to 21 = Sample Survey



Sample

# ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## INSTRUMENT DATA

Mfg. <u>EBERLINE</u>	Mfg. <u>EBERLINE</u>	Mfg. <u>EBERLINE</u>
Model <u>BC-4</u>	Model <u>BC-4</u>	Model <u>SAC-4</u>
Serial # <u>838</u>	Serial # <u>874</u>	Serial # <u>959</u>
Cal Due <u>7/13/99</u>	Cal Due <u>6/7/99</u>	Cal Due <u>7/5/99</u>
Bkg. <u>74</u>	Bkg. <u>37</u>	Bkg. <u>0.1</u>
Efficiency <u>25%</u>	Efficiency <u>25%</u>	Efficiency <u>33%</u>
MDA <u>&lt;200</u>	MDA <u>&lt;200</u>	MDA <u>&lt;20</u>

Survey Type: Contamination Survey

Building: 662

Location: \_\_\_\_\_

Purpose: Asbestos Sampling - Pre + Post Job

RWP #: -NA-

Date: 05-13-99

Time: 1545

Mfg. <u>EBERLINE</u>	Mfg. <u>NE TECH</u>	Mfg. <u>NE TECH</u>
Model <u>SAC-4</u>	Model <u>ELECTRA</u>	Model <u>ELECTRA</u>
Serial # <u>1188</u>	Serial # <u>2344</u>	Serial # <u>2344</u>
Cal Due <u>6/16/99</u>	Cal Due <u>8-1-99</u>	Cal Due <u>8-2-99</u>
Bkg. <u>0.1</u>	Bkg. <u>5</u>	Bkg. <u>501</u>
Efficiency <u>33%</u>	Efficiency <u>22.0%</u>	Efficiency <u>32.0%</u>
MDA <u>&lt;20</u>	MDA <u>60</u>	MDA <u>320</u>

RCT: Rex Sawyer R. Lynch  
 Print name Signature

RCT: N 1 T  
 Print name Signature Emp. #

PRL #: \_\_\_\_\_

Comments Contam Survey for Asbestos Sampling #1 to 9 Pre Job Area Survey  
#10 to 18 Survey on Samples 1 thru 9 #19 to 27 Post Job Area Survey

All Results Are In dpm/100cm2

## SURVEY RESULTS

Removable		Direct		Removable		Direct	
Alpha	Beta	Alpha	Beta	Alpha	Beta	Alpha	Beta
1. < 20	< 200	< 60	< 320	23. < 20	< 200	< 60	< 320
2. < 20	< 200	< 60	747	24. < 20	< 200	< 60	< 320
3. < 20	< 200	< 60	< 320	25. < 20	< 200	< 60	< 320
4. < 20	< 200	< 60	< 320	26. < 20	< 200	< 60	< 320
5. < 20	< 200	< 60	< 320	27. < 20	< 200	< 60	< 320
6. < 20	< 200	< 60	< 320	28. _____	_____	_____	_____
7. < 20	< 200	< 60	< 320	29. _____	_____	_____	_____
8. < 20	< 200	< 60	< 320	30. _____	_____	_____	_____
9. < 20	< 200	< 60	< 320	31. _____	_____	_____	_____
10. < 20	< 200	< 60	< 320	32. _____	_____	_____	_____
11. < 20	< 200	< 60	< 320	33. _____	_____	_____	_____
12. < 20	< 200	< 60	< 220	34. _____	_____	_____	_____
13. < 20	< 200	< 60	< 320	35. _____	_____	_____	_____
14. < 20	< 200	< 60	< 320	36. _____	_____	_____	_____
15. < 20	< 200	< 60	< 220	37. _____	_____	_____	_____
16. < 20	< 200	< 60	< 320	38. _____	_____	_____	_____
17. < 20	< 200	< 60	< 220	39. _____	_____	_____	_____
18. < 20	< 200	< 60	< 320	40. _____	_____	_____	_____
19. < 20	< 200	< 60	< 320	41. _____	_____	_____	_____
20. < 20	< 200	< 60	< 320	42. _____	_____	_____	_____
21. < 20	< 200	< 60	< 320	43. _____	_____	_____	_____
22. < 20	< 200	< 60	823	44. _____	_____	_____	_____

Date

5-13-99

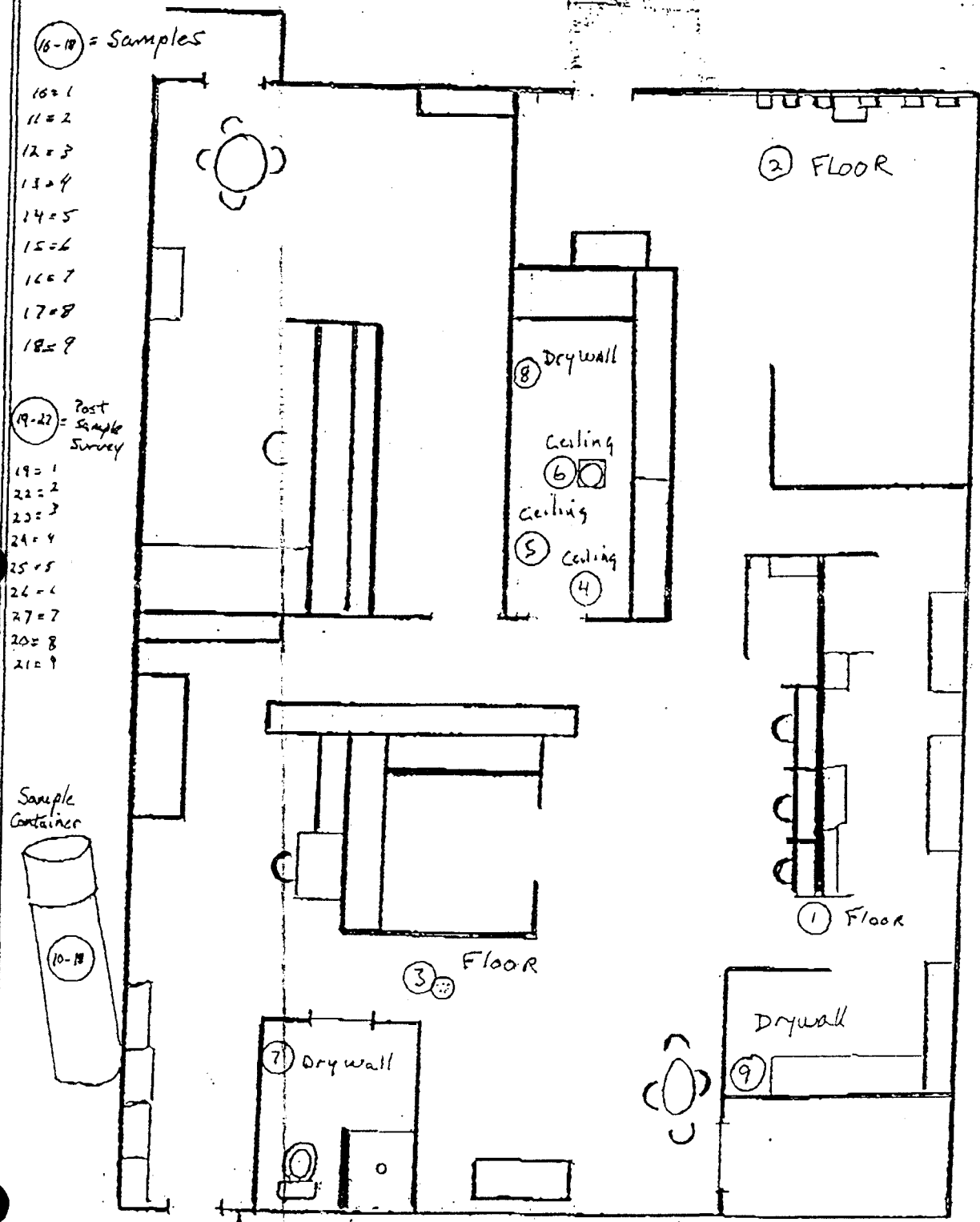
RS Supervision: \_\_\_\_\_

K. Sorells

1 P.D.

ROCKWELL'S ENVIRONMENTAL TECHNOLOGY SUITE

RADIOLOGICAL SAFETY  
Drawing Showing Survey Points



503

# COPY

RS FORMS 07.02-01

Page 1 of 2

## ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

### INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model SAC-4	Model SAC-4	Model SAC-4 <u>BL</u>
Serial # <u>835</u>	Serial # <u>842</u>	Serial # <u>838</u>
Cal Due <u>10-26-99</u>	Cal Due <u>6-9-99</u>	Cal Due <u>7-13-99</u>
Bkg. <u>0.0</u>	Bkg. <u>0.3</u>	Bkg. <u>39</u>
Efficiency <u>.33</u>	Efficiency <u>.33</u>	Efficiency <u>.25</u>
MDA <u>20</u>	MDA <u>20</u>	MDA <u>200</u>

Mfg. EBERLINE	Mfg. NE.TECH	Mfg. NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # <u>874</u>	Serial # <u>1180</u>	Serial # <u>1180</u>
Cal Due <u>6-7-99</u>	Cal Due <u>11-12-99</u>	Cal Due <u>11-12-99</u>
Bkg. <u>36</u>	Bkg. <u>3.0</u>	Bkg. <u>3.0</u>
Efficiency <u>.25</u>	Efficiency <u>.21</u>	Efficiency <u>.21</u>
MDA <u>200</u>	MDA <u>52</u>	MDA <u>343</u>

Survey Type: CONTAMINATION

Building: 709  
 Location: EXTERIOR AIRING / DUCT WORK  
 Purpose: RESURVEY FOR AP-2 SURVEY

RWP #: NA

PERFORMED  
 Date: 5-25-99 Time: 1600

DATE DOCUMENTED 5-26-99 1530

RCT: KENT SWAN / K.L. Stahl  
 Print name Signature

RCT: / / /  
 Print name Signature Emp. #

PRL #: \_\_\_\_\_

Comments: \_\_\_\_\_

### SURVEY RESULTS

	REMOVABLE		DIRECT		REMOVABLE		DIRECT	
	ALPHA	BETA	ALPHA	BETA	ALPHA	BETA	ALPHA	BETA
METAL 1	<20	<200	72	<343				
INSULATION	<20	<200	60	<343				
METAL 3	<20	<200	156	<343				
INSULATION	<20	<200	<52	<343				
METAL 5	<20	<200	72	<343				
INSULATION	<20	<200	132	<343				
METAL 7	<20	<200	90	<343				
INSULATION	<20	<200	66	<343				
METAL 9	<20	<200	300	<343				
INSULATION	<20	<200	186	<343				
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								

5-26-99

Date Reviewed: 5-26-99

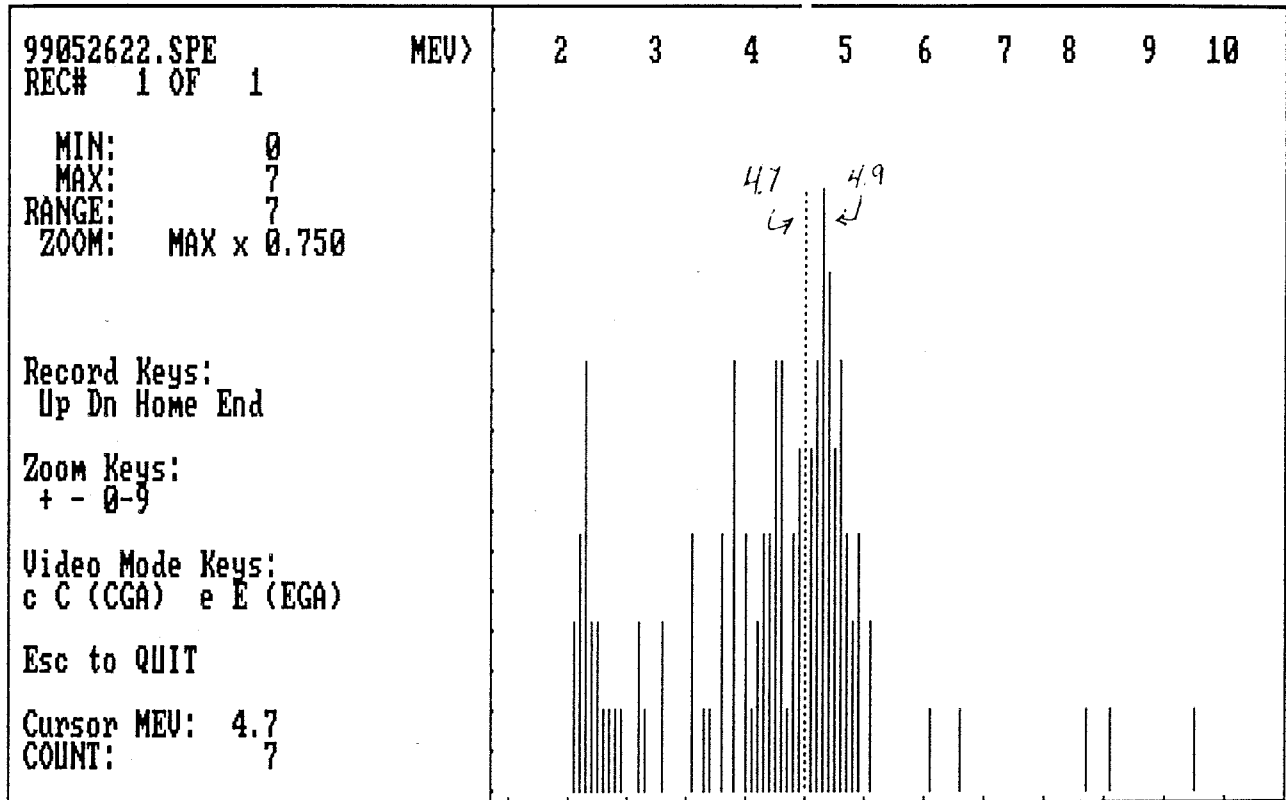
RS Supervision: \_\_\_\_\_

Print Name

Signature

504

COPY



AP-2 # A-119  
CAL. Due 6-18-99

BLD. 709 HOT SPOT  
K. J. Stroll 516701 5/26/99 1500

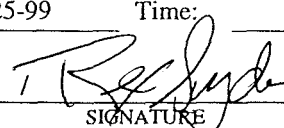
Date: 5-26-99 Reviewed [Signature] / L.N. Cooper 512837  
RCT Foreman



## ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## INSTRUMENT DATA

Mfg.: EBERLINE	Mfg.: EBERLINE	Mfg.: EBERLINE	Survey Type: CONTAM SURVEY
Model SAC4	Model SAC4	Model BC4	Building: 709
Serial # 1081	Serial # 818	Serial # 775	Location: N/A
Cal Due 10-6-99	Cal Due 7-19-99	Cal Due 6-2-99	Purpose: CONTAM SURVEY FOR ASBETOS SAMPLE
Bkg. 0.1	Bkg. 0.3	Bkg. 42	RWP #: N/A
Eff. 33%	Eff. 33%	Eff. 25%	PRL #: N/A
MDA 20	MDA 20	MDA 200	PRE #: N/A

Mfg.: EBERLINE	Mfg.: NE	Mfg.: NE	Date: 05-25-99	Time: 10:00
Model BC4	Model ELECTRA	Model ELECTRA	REX SNYDER 	
Serial # 842	Serial # 725	Serial # 725		
Cal Due 6-28-99	Cal Due 10-29-99	Cal Due 10-29-99	RCT NAME	SIGNATURE
Bkg. 44	Bkg. 3	Bkg. 526	N/A / N/A / N/A	
Eff. 25%	Eff. 23.0%	Eff. 33.1%		
MDA 200	MDA 47	MDA 328	RCT NAME	EMPLOYEE #

Comments: THIS SURVEY CONTAINS PRE-SAMPLE, POST-SAMPLE, & SAMPLE RELEASE RCT SURVEY INFORMATION

## SURVEY RESULTS

ALPHA				BETA			
SWIPE	LOCATION	SWIPE	DIRECT	WIPE	SWIPE	DIRECT	WIPE
#	BUILDING 709 COMPONENTS	DPM/100CM2	DPM/100CM2	DPM/WIPE	DPM/100CM2	DPM/100CM2	DPM/WIPE
1	PRE-S PIPE ON N/S	<20	72	N/A	<200	<328	N/A
2	PRE-S SMALL PIPE ON W/S	<20	66	N/A	<200	<328	N/A
3	PRE-S LARGE PIPE W/S	<20	600	N/A	<200	669	N/A
4	PRE-S SMALL VERTICLE PIPE W/S	<20	54	N/A	<200	<328	N/A
5	PRE-S SMALL HORZ. PIPE W/S	<20	84	N/A	<200	792	N/A
6	POST-S PIPE ON N/S	<20	48	N/A	<200	<328	N/A
7	POST-S SMALL PIPE ON W/S	<20	78	N/A	<200	<328	N/A
8	POST-S LARGE PIPE W/S	<20	402	N/A	<200	<328	N/A
9	POST-S SMALL VERTICLE PIPE W/S	<20	54	N/A	<200	<328	N/A
10	POST-S SMALL HORZ. PIPE W/S	<20	126	N/A	<200	824	N/A
11	SAMPLE 1	<20	<47	N/A	<200	<328	N/A
12	SAMPLE 2	<20	<47	N/A	<200	<328	N/A
13	SAMPLE 3	<20	<47	N/A	<200	<328	N/A
14	SAMPLE 4	<20	<47	N/A	<200	<328	N/A
15	SAMPLE 5	<20	<47	N/A	<200	<328	N/A
16							
17							

Reviewed: 5-26-99 RS Supervision: *LN Cooper* *Letty K Cooper*

Print Name

Signature

# ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

**FINAL**

## INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model BC-4	Model BC-4	Model SAC-4
Serial # 838	Serial # 874	Serial # 959
Cal Due 7/13/99	Cal Due 6/7/99	Cal Due 7/5/99
Bkg. 39	Bkg. 38	Bkg. 0.2
Efficiency 25%	Efficiency 25%	Efficiency 33%
MDA <200	MDA <200	MDA <20

Survey Type: Contamination Survey

Building: 910

Location:

Purpose: CHARACTERIZATION SURVEYS

RWP #: 99-991-0044

Date: 04-27-99 Time: 1900

Mfg. EBERLINE	Mfg. NE TECH	Mfg. NE TECH
Model SAC-4	Model ELECTRA	Model ELECTRA
Serial # 1188	Serial # 1682	Serial # 1682
Cal Due 6/16/99	Cal Due 8-12-99	Cal Due 8-12-99
Bkg. 0.2	Bkg. 3	Bkg. 496
Efficiency 33%	Efficiency 22.3%	Efficiency 31.1%
MDA <20	MDA 49	MDA 318

RCT: Rex Snyder, Rex Snyder

Print name

Signature

RCT: N A

Print name

Signature

Emp. #

PRL #:

Comments: Survey Points on Roof / Pre Asbestos + Post Asbestos Survey Results  
#11-12-13 are post Asbestos Results

All Results Are In dpm/100cm2

## SURVEY RESULTS

Removable		Direct		Removable		Direct	
Alpha	Beta	Alpha	Beta	Alpha	Beta	Alpha	Beta
1. < 20	< 200	< 49	< 318	23. /	/	/	/
2. < 20	< 200	< 49	< 318	24. /	/	/	/
3. < 20	< 200	< 49	< 318	25. /	/	/	/
4. < 20	< 200	< 49	846	26. /	/	/	/
5. < 20	< 200	< 49	834	27. /	/	/	/
6. < 20	< 200	< 49	642	28. /	/	/	/
7. < 20	< 200	< 49	582	29. /	/	/	/
8. < 20	< 200	84	909	30. /	/	/	/
9. < 20	< 200	< 49	7101	31. /	/	/	/
10. < 20	< 200	90	768	32. /	/	/	/
11. < 20	< 200	< 49	< 318	33. /	/	/	/
12. < 20	< 200	< 49	615	34. /	/	/	/
13. < 20	< 200	< 49	472	35. /	/	/	/
14. < 20	< 200	< 49	< 318	36. /	/	/	/
15. < 20	< 200	< 49	< 318	37. /	/	/	/
16. < 20	< 200	< 49	< 318	38. /	/	/	/
17. /	/	/	/	39. /	/	/	/
18. /	/	/	/	40. /	/	/	/
19. /	/	/	/	41. /	/	/	/
20. /	/	/	/	42. /	/	/	/
21. /	/	/	/	43. /	/	/	/
22. /	/	/	/	44. /	/	/	/

Date

4/28/99

RS Supervision: LN Cooper

Print Name

Signature

Emp. #

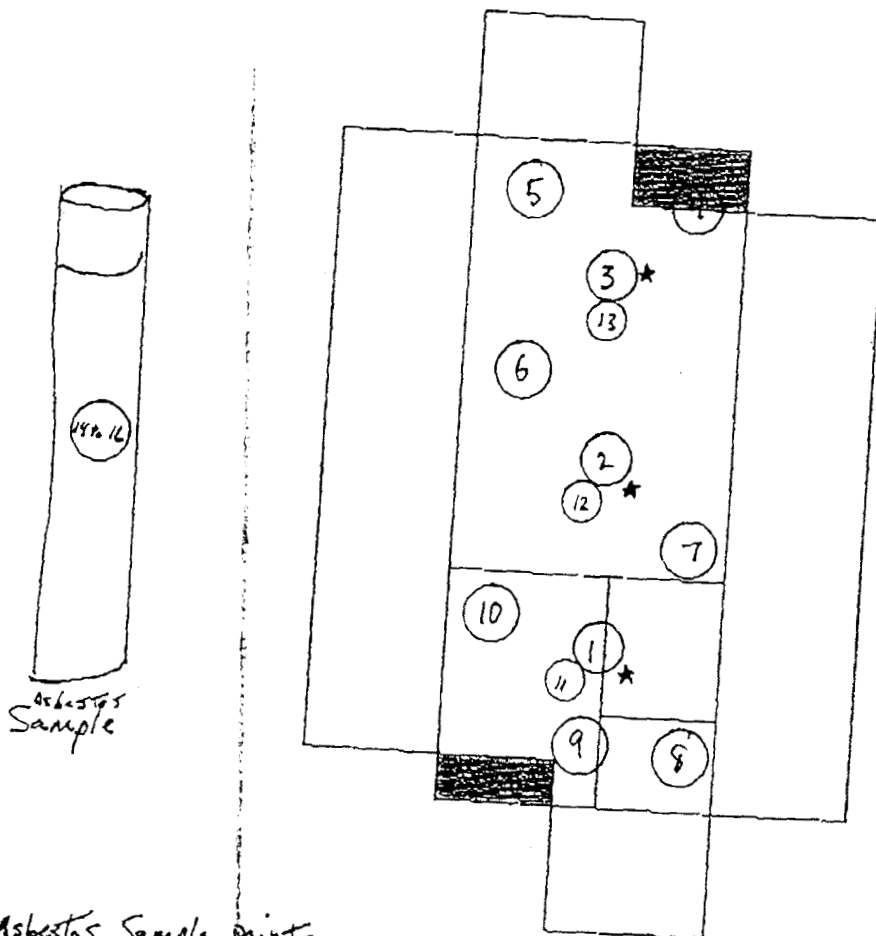
# LOCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## RADIOLOGICAL SAFETY

Drawing Showing Survey Points

Building 910 - First Floor Roof  
RAS 4-27-79

- #1 to 3 Indicate Asbestos Sample Location
- #1 to 10 Indicate Cassia Survey Locations
- #11 to 13 Indicate Rat Sample Survey



★ Asbestos Sample points



# COPY

RS FORMS 07.02-01

## ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

### INSRUMENT DATA

Mfg. <u>EBERLINE</u>	Mfg. <u>EBERLINE</u>	Mfg. <u>NE TEC</u>
Model <u>SAC-4</u>	Model <u>SAC-4</u>	Model <u>ELECTRA</u>
Serial# <u>1042</u>	Serial# <u>797</u>	Serial# <u>1545</u>
Cal Due <u>11-15-99</u>	Cal Due <u>10-24-99</u>	Cal Due <u>11-19-99</u>
Bkg. <u>0.0</u>	Bkg. <u>0.2</u>	Bkg. <u>2.555</u>
Efficiency <u>53%</u>	Efficiency <u>30%</u>	Efficiency <u>21.6</u>
MDA <u>20</u>	MDA <u>20</u>	MDA <u>33.1</u>

Survey Type: \_\_\_\_\_

Building: 904

Location: PAD

Purpose: SURVEY OF TAR AROUND TENTS

RWP #: N/A

Date: 6-17-99

Time: 14:00

RCT: CP Depp  
Print name

1 CP Depp  
Signature

RCT: L Hankins  
Print name

1 Hankins  
Signature

PRL #: N/A

Comments: N/A

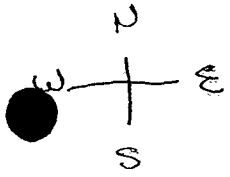
### SURVEY RESULTS

Sw #	Location/Description Results in DPM/100CM <sup>2</sup>	Removable		Total		Swipe #	Location/Description Results in DPM/100CM <sup>2</sup>	Removable		Total	
		Alpa	Beta	Alpa	Beta			Alpa	Beta	Alpa	Beta
1	TENT 8	<20	<200	<56	<340	16					
2	TENT 9	<20	<200	<56	<340	17					
3	TENT 10	<20	<200	<56	<340	18					
4	TENT 11	<20	<200	<56	<340	19					
5						20					
6						21					
7						22					
8						23					
9						24					
10						25					
11						26					
12						27					
13						28					
14						29					
15						30					

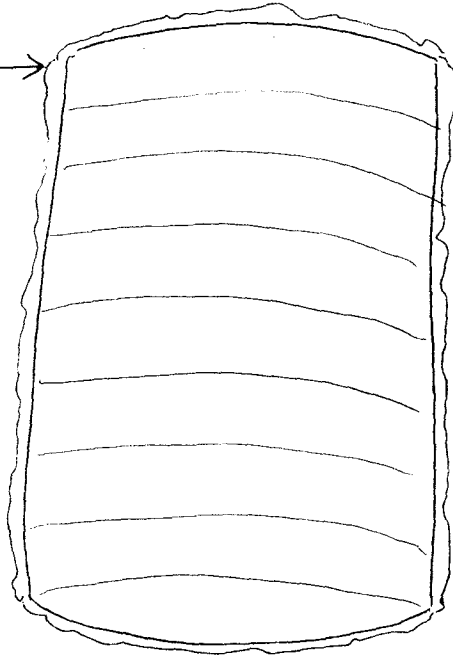
Date Reviewed: 6-17-99

RS Supervision: IN Cooper  
Print Name

1 Klosser  
Signature



TENT TAR →  
NORTH WEST  
CORNER OF  
EVERY TEN  
8, 9, 10, 11



## **Appendix G.2.3**

### **RLC Asbestos Characterization Report**

**Bldg. 551, 662, 709, 910, and 904 Pad**

### **Laboratory Data**

# RESERVOIRS ENVIRONMENTAL SERVICES, INC.

NVLAP Accredited Laboratory #1896

Page 1 of 2

TABLE I. PLM BULK ANALYSIS, PERCENTAGE COMPOSITION BY VOLUME

RES Job Number: RES 59726-1

Client: Kaiser-Hill Company, LLC

Date Samples Received: 99Z7116, On Site Sample Analysis A. Gonzales

Analysis Type: PLM Short Report, Bulk

Turnaround: 24 Hour

Note: The US EPA requires use of stratified analysis for NESHP and AHERA compliance. Composite results only apply for specific exceptions.

Client Sample Number	Lab ID Number	L a y e r	Physical Description	Portion of Total Sample (%)	ASBESTOS CONTENT		Non-Asbestos Fibrous Components (%)							Non-Fibrous Components (%)
					BY LAYER	Visual Estimate (%)	C	G	S	H	W	T	O	
551-99042705-01	EM 403164	A	Tan fibrous perlite material	10	Chrysotile	ND	50	0	0	0	0	0	0	50
		B	Black tar	25		10	0	0	0	0	0	0	0	90
		C	Black tar w/black fibrous tar & tan fibrous material	65		ND	15	15	0	0	0	0	0	70
551-99042705-02	EM 403165	A	Tan fibrous perlite material	25		ND	50	0	0	0	0	0	0	50
		B	Black fibrous tar	25		ND	0	40	0	0	0	0	0	60
		C	Black tar w/multicolored rock fragments	50		ND	0	0	0	0	0	0	0	100
551-99042705-03	EM 403166	A	Black fibrous tar	20		ND	0	40	0	0	0	0	0	60
		B	Tan fibrous perlite material	35		ND	50	0	0	0	0	0	0	50
		C	Black tar w/multicolored rock fragments	45		ND	0	0	0	0	0	0	0	100
551-99042705-04	EM 403167	A	Black fibrous tar	15		ND	0	40	0	0	0	0	0	60
		B	Tan fibrous perlite material	35		ND	50	0	0	0	0	0	0	50
		C	Black tar w/multicolored rock fragments	50		ND	0	0	0	0	0	0	0	100
551-99042705-05	EM 403168	A	Tan wood	5	Chrysotile	ND	97	0	0	0	0	0	0	3
		B	Black tar w/silver paint	25		10	0	0	0	0	0	0	0	90
		C	Black fibrous tar	70		ND	0	30	0	0	0	0	0	70

ND = None Detected CELL = Cellulose ORG = Organic  
TR = Trace, < 1% Visual Estimate Tram-Act = Tremolite-Actinolite

WOLL = Wollastonite  
BRUC = Brucite

GYP = Gypsum  
SYNTH = Synthetic

Analyst: PDL

Data QA

512

# RESERVOIRS ENVIRONMENTAL SERVICES, INC.

NVLAP Accredited Laboratory #1896

Page 2 of 2

TABLE I. PLM BULK ANALYSIS, PERCENTAGE COMPOSITION BY VOLUME

RES Job Number: RES 59726-1  
 Client: Kaiser-Hill Company, LLC  
 Client Project: 99Z7116, On Site Sample Analysis A. Gonzales  
 Date Samples Received: May 04, 1999  
 Analysis Type: PLM Short Report, Bulk  
 Turnaround: 24 Hour

Note: The US EPA requires use of stratified analysis for NESHA and AHERA compliance. Composite results only apply for specific exceptions.

Client Sample Number	Lab ID Number	L a y e r	Physical Description	Portion of Total Sample (%)	ASBESTOS CONTENT		Non-Asbestos Fibrous Components (%)										N-n-Fibrous Components (%)	
					BY LAYER	Visual Estimate (%)	C	G	S	H	W	T	O	A	L	H	E	R
551-99042705-06	EM 403169	A	Black tar w/silver paint (2 blk tar layers)	30	Chrysotile	10	10	0	0	0	0	0	0	0	0	0	0	80
			B Black fibrous tar w/black tar	70		ND	0	25	0	0	0	0	0	0	0	0	0	75
551-99042705-07	EM 403170	A	Tan wood	5	Chrysotile	ND	97	0	0	0	0	0	0	0	0	0	0	3
		B	Black tar w/silver paint	25		25	3	0	0	0	0	0	0	0	0	0	0	72
		C	Black fibrous tar	70		ND	0	35	0	0	0	0	0	0	0	0	0	65
910-99042705-01	EM 403171	A	Tan fibrous perlite material	30		ND	50	0	0	0	0	0	0	0	0	0	0	50
		B	Black fibrous tar w/black tar	70		ND	0	25	0	0	0	0	0	0	0	0	0	75
910-99042705-02	EM 403172	A	Tan fibrous perlite material w/yellow foam	50		ND	60	0	0	0	0	0	0	0	0	0	0	40
		B	Black fibrous tar	50		ND	0	30	0	0	0	0	0	0	0	0	0	70
910-99042705-03	EM 403173	A	Tan fibrous perlite material	40		ND	50	0	0	0	0	0	0	0	0	0	0	50
		B	Black fibrous tar w/black tar	60		ND	0	30	0	0	0	0	0	0	0	0	0	70

ND = None Detected    CELL = Cellulose    ORG = Organic    WOLL = Wollastonite    GYP = Gypsum  
 TR = Trace, < 1% Visual Estimate    Trem-Act = Tremolite-Actinolite    BRUC = Brucite    SYNTH = Synthetic

513



# RESERVOIRS ENVIRONMENTAL SERVICES, INC.

Page 3 of 4

NVLAP Accredited Laboratory #1896

TABLE I. PLM BULK ANALYSIS, PERCENTAGE COMPOSITION BY VOLUME

RES Job Number: RES 60177-1

Client: Kaiser-Hill Company, LLC

Client Project: 9977560, On-Site Sample Analysis, A. Gonzalez

Date Samples Received: May 20, 1999

Analysis Type: PLM Short Report, Bulk

Turnaround: 24 Hour

Note: The US EPA requires use of stratified analysis for NESHAP and AHERA compliance. Composite results only apply for specific exceptions.

Client Sample Number	Lab ID Number	L a y e r	Physical Description	Portion of Total Sample (%)	ASBESTOS CONTENT		Non-Asbestos Fibrous Components (%)										Non-Fibrous Components (%)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
					BY LAYER	Visual Estimate (%)	C	G	S	H	A	O	T	L	N	J	R	L	C	E	H																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
662-99051305-01	EM 407103	A	Tan resin	5	ND		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

ND = None Detected  
TR = Trace, < 1% Visual Estimate

CELL = Cellulose

ORG = Organic  
Trem-Act = Tremolite-Actinolite

WOLL = Wollastonite  
BRUC = Brucite

GYP = Gypsum  
SYNTH = Synthetic

Analyst: PDL

514

# RESERVOIRS ENVIRONMENTAL SERVICES, INC.

Page 4 of 4

NVLAP Accredited Laboratory #1896

TABLE I. PLM BULK ANALYSIS, PERCENTAGE COMPOSITION BY VOLUME

RES Job Number:

RES 60177-1

Client:

Kaiser-Hill Company, LLC

Client Project:

9977560, On-Site Sample Analysis, A. Gonzalez

Date Samples Received:

May 20, 1999

Analysis Type:

PLM Short Report, Bulk

Turnaround:

24 Hour

Note: The US EPA requires use of stratified analysis for NESHA and  
 AHERA compliance. Composite results only apply for specific exceptions.

Client Sample Number	Lab ID Number	Physical Description	Portion of Total Sample (%)	ASBESTOS CONTENT		Non-Asbestos Fibrous Components (%)										Non-Fibrous Components (%)					
						BY LAYER		Mineral		Visual Estimate (%)		C G S H W T		E L Y A O A				L A N I L L C		L S T R L C	
662-99051305-09	EM 407111	A Tan fibrous material w/white paint	20																		20
		B White plaster	80																		95

ND = None Detected CELL = Cellulose ORG = Organic  
 TR = Trace, < 1% Visual Estimate Trem-Act = Tremolite-Actinolite

WOLL = Wollastonite  
 BRUC = Brucite

GYP = Gypsum  
 SYNTH = Synthetic

Data QA

515

# RESERVOIRS ENVIRONMENTAL SERVICES, INC.

NVLAP Accredited Laboratory #1896

TABLE I. PLM BULK ANALYSIS, PERCENTAGE COMPOSITION BY VOLUME

RES Job Number:

RES 60415-1

Kaiser-Hill Company, LLC

99Z7769, On-Site Sample Analysis, A. Gorzalez

May 27, 1999

PLM Short Report, Bulk

24 Hour

Note: The US EPA requires use of stratified analysis for NESHAP and AHERA compliance. Composite results only apply for specific exceptions.

Turnaround:

Turnaround: 24 Hour																			
Client Sample Number	Lab ID Number	L a y e r	Physical Description	Portion of Total Sample (%)	ASBESTOS CONTENT		Non Asbestos Fibrous Components (%)										Non-Fibrous Components (%)		
					BY LAYER	Visual Estimate (%)	C	G	S	H	W	T	O	A	T	H		E	R
709-99052405-01 EM 409630			A Clear resinous material B Brown resinous material C White resinous material D Gold fibrous material	2	Chrysotile		ND	0	0	0	0	0	0	0	0	0	0	0	100
				4				0	0	0	0	0	0	0	0	0	0	0	90
				9				0	0	0	0	0	0	0	0	0	0	0	100
				85				TR	75	0	0	0	0	0	0	0	0	0	25
709-99052405-02 EM 409631			A White/yellow resinous material w/white fibrous material, silver foil & white fibrous material B Yellow fibrous material	7			ND	25	5	0	0	0	0	0	0	0	0	70	
				93				0	85	0	0	0	0	0	0	0	0	15	
				3				ND	80	0	0	0	0	0	0	0	0	20	
709-99052405-03 EM 409632			A Tan fibrous material w/clear resinous material B Brown resinous material C Gold fibrous material	12	Chrysotile Amosite		10 TR	0	0	0	0	0	0	0	0	0	0	90	
				85				ND	0	85	0	0	0	0	0	0	15		
				3				ND	80	0	0	0	0	0	0	20			
709-99052405-04 EM 409633			A Tan fibrous material w/clear resinous material B Brown resinous material	97			ND	0	85	0	0	0	0	0	0	0	15		
				7				ND	0	60	0	0	0	0	0	40			
709-99052405-05 EM 409634			A White fibrous woven material w/silvr paint & brown resinous matrial B White fibrous plaster C Gold fibrous material	38	Chrysotile Amosite		5 TR	0	35	0	0	0	0	0	0	0	0	60	
				55				ND	0	85	0	0	0	0	0	15			

Analyst: PDL

GYP = Gypsum

SYNTH = Synthetic

WOLL = Wollastonite

BRUC = Brucite

ORG = Organic

Trem-Act = Tremolite-Actinolite

CELL = Cellulose

TR = Trace, &lt; 1% Visual Estimate

516

## RESERVOIRS ENVIRONMENTAL SERVICES, INC.

NVLAP Accredited Laboratory #1896

TABLE I. PLM BULK ANALYSIS, PERCENTAGE COMPOSITION BY VOLUME

RES Job Number:

RES 61274-1

Client:

Kaiser-Hill Company, LLC

Client Project:

99Z8273, On Site Sample Analysis, Andre Gonzalez

Data Samples Received:

June 24, 1999

Analysis Type:

PLM Short Report, Bulk

Turnaround:

24 Hour

Note: The US EPA requires use of stratified analysis for NESHAP and AHRA compliance. Composite results only apply for specific exceptions.

Client Sample Number	Lab ID Number	Physical Description	Portion of Total Sample (%)	ASBESTOS CONTENT		Non-Asbestos Fibrous Components (%)										Non-Fibrous Components (%)			
				BY LAYER	Visual Estimate (%)	C G S H W T O A T H E R													
		L a y e r			Mineral														

ND = None Detected  
TR = Trace, < 1% Visual Estimate

CELL = Cellulose  
ORG = Organic  
Trem-Act = Tremolite-Actinolite

WOLL = Wollastonite  
BRUC = Brucite

GYP = Gypsum  
SYNTH = Synthetic

Analyst: PDL

Date: 06/25/89

517

**Appendix G.2.4**

**RLC Asbestos Characterization Report**

**Bldg. 551, 662, 709, 910, and 904 Pad**

**Asbestos Inspection Report**

# **ASBESTOS INSPECTION REPORT**

**BUILDING 709  
BUILDING 662  
BUILDING 551  
BUILDING 910  
904 PAD Tents**

**JUNE 30, 1999**

**Prepared for:**

**Rocky Mountain Remediation Services, L.L.C.**

**Prepared by:**

**FOOTHILLS ENVIRONMENTAL, INC.**

2801 Youngfield Street, Suite 300  
Golden, CO 80401  
(303) 275-3470

## **1. EXECUTIVE SUMMARY**

Asbestos assessment surveys were conducted by Foothills Environmental, Inc. at the Rocky Flats Environmental Technology Site (RFETS) west of Denver, CO. The surveys were performed for Rocky Mountain Remediation Services (RMRS) during the months of April and May 1999. The intent of the surveys was to sample suspect asbestos containing materials (ACM) in specified locations of five different buildings/structures at the RFETS site. All samples were collected by Andre Gonzalez, a licensed Asbestos Inspector/Management Planner by the State of Colorado and the Environmental Protection Agency. A copy of the analytical results is provided in Appendix A for reference. Radiological survey maps are provided in Appendix B and depict sample locations.

The assessment surveys were performed in the following structures/buildings:

- Building 551 - Roof
- Building 910 - Roof
- Building 662 - Comprehensive survey
- Building 709 - Roof and associated pipe insulation
- 904 Pad - Black tar

## **2. SCOPE OF WORK**

The scope of work for this assessment included the following:

1. Visual inspection of the specified areas to identify suspect ACM;
2. Collection of bulk samples of suspect materials in each specified area for analysis by Polarized Light Microscopy (PLM);
3. Describe sample results of all sampled materials;
4. Provide laboratory results from an accredited laboratory.

## **3. SAMPLING AND ANALYTICAL PROCEDURES**

Suspect materials were identified based on a physical assessment of the target structures. Suspect building materials were grouped onto homogeneous areas based on their physical characteristics, color, texture, and application. Suspect materials were divided into one of three categories based on the following homogeneous area classification scheme recognized by regulatory agencies (e.g., EPA, Colorado Department of Public Health and Environment):

1. Thermal systems insulation (TSI); any type of pipe, boiler, tank or flue insulation.
2. Surfacing material: sprayed or troweled onto a structural building member.
3. Miscellaneous: all other suspect materials, including flooring, ceiling tiles, floor coverings, other insulations, finishing materials, etc.

Random bulk samples were collected according to the guidelines published as the Environmental Protection Agency's Final Rule: Title II of the Toxic Substances Control Act (TSCA), 15 USC,

Sections 2641 through 2654 and in compliance with 40 CFR, Part 763 and the Colorado Department of Public Health and Environment (CDPHE) Regulation #8. At least three samples of each suspect material were collected for analysis by an NVLAP-accredited laboratory. Core samples collected were placed in sealable bags for delivery to Building 881 for analysis by Reservoirs Environmental Services. Samples collected were given unique identification numbers assigned by the accredited Asbestos Inspector for tracking purposes. For the purposes of this report, Foothills Environmental has considered a material to be asbestos containing if any one of the samples in a sample set (i.e., homogeneous area sample sets) collected were found to contain greater than or equal to 1% asbestos.

All bulk samples collected were analyzed by Reservoirs Environmental utilizing the Environmental Protection Agency's Interim Method for the Detection of Asbestos in Bulk Insulation Samples (EPA 600/M4-82020, December 1982) and the McCrone Research Institute's The Asbestos Particle Atlas as method references. Reservoirs Environmental Inc. is accredited by NVLAP (#1896) and participates in the NVLAP and AIHA Bulk Asbestos Sample Quality Assurance Programs.

## 4. SURVEY RESULTS

### 4.1 Building 709

Building 709 is a cooling tower constructed primarily of wood. Fiberglass boarding was also used for specific components, but the majority of the structure is composed of wood. No suspect ACM was present on the Building 709 structure. Adjacent to the structure are several large insulated water lines and a pump station with insulated pipelines. Samples were collected from the insulation on the pipelines. Analytical results are as follows:

Sample Number	Material Sampled & Location	Analytical Results
709-99-05-24-05-01	TSI: Brown painted large water line on North side of B709	10% Chrysotile in brown resinous layer; None detected in other layers
709-99-05-24-05-02	TSI: 2" line exiting electrical shack on West end of B709	None Detected
709-99-05-24-05-03	TSI: Large water line on West end of B709	10% Chrysotile and a trace Amosite asbestos in brown resinous layer; None detected in other layers
709-99-05-24-05-04	TSI: 2" line from a pump generator into ground on West end of B709	None Detected
709-99-05-24-05-05	TSI: 2" line from a generator into a water basin on West end of B709	10% Chrysotile and a trace Amosite asbestos in the white fibrous plaster; None detected in other layers

All lines were wrapped in protective metal shrouds which made it difficult to differentiate homogeneous materials. For the purpose of this assessment, all materials were considered one homogeneous material. Three of the five samples had positive detections for asbestos. Based on the results, all thermal systems insulation (TSI) should be considered asbestos containing.



## 4.2 Building 910

The roof of Building 910 was sampled for asbestos containing materials. Three core samples were collected. The results are as follows:

Sample Number	Material Sampled & Location	Analytical Results
910-99-04-27-05-01	Roof Material: East end - Center	None Detected
910-99-04-27-05-02	Roof Material: Center of roof	None Detected
910-99-04-27-05-03	Roof Material: West end - Center	None Detected

The roof is flat with a slight pitch and is composed of an underlying base board covered by tar and gravel. No flashing material exists on the roof. Each layer was analyzed for asbestos content with no asbestos detected in any of the samples. The analytical results indicate the roofing material may be considered asbestos free.

## 4.3 Building 551

The roof of Building 551 is flat with drainage ports along the perimeter of the roof. The roof perimeter is built up approximately two feet with flashing along the entire length. Flashing is also present around all roof ventilation components, access hatches, and other roof structures. The roof is composed of an underlying base board covered by tar and gravel. Four samples of the roof system were collected and three samples of the flashing were collected. Analytical results are as follows:

Sample Number	Material Sampled & Location	Analytical Results
551-99-04-27-05-01	Core roof sample adjacent to access ladder on east side of roof	10% Chrysotile in the black tar layer
551-99-04-27-05-02	North end of roof - Center; 4 feet from east exhaust vent	None Detected
551-99-04-27-05-03	Southwest roof section; 6 feet from water drain	None Detected
551-99-04-27-05-04	South end of roof - Center; 8 feet east of round exhaust	None Detected
551-99-04-27-05-05	Roof flashing; northeast sky hatch	10% Chrysotile in black tar (painted silver)
551-99-04-27-05-06	Roof flashing; northwest section - second sky hatch from the north	10% Chrysotile in black tar (painted silver)
551-99-04-27-05-07	Roof flashing; northeast section - second sky hatch from the north	25% Chrysotile in black tar (painted silver)

Of the four roof samples one was positive for asbestos. Asbestos inspection rules require the roof be considered asbestos containing despite no asbestos detection in three of the four samples. All three of the roof flashing samples detected asbestos and must be considered asbestos containing.

522

#### 4.4 Building 662

Building 662 is steel structure built on a concrete slab with sheet metal siding and metal roof panels. Three suspect asbestos containing materials were identified within the interior – floor tile, ceiling tile and drywall. The drywall did not have tape or joint compound on any seams and therefore was not sampled. Insulation was not present on any of the water lines or the heating system. Analytical results are as follows:

Sample Number	Material Sampled & Location	Analytical Results
662-99-05-13-05-01	1' x 1' floor tile with yellow mastic; Floor entering locker room	None Detected
662-99-05-13-05-02	1' x 1' floor tile (mastic not present on sample); Near south door	None Detected
662-99-05-13-05-03	1' x 1' floor tile with yellow mastic; Floor drain outside bathroom	None Detected
662-99-05-13-05-04	2' x 4' white ceiling tile; North end of central office	None Detected
662-99-05-13-05-05	2' x 4' white ceiling tile; Northeast end of central office	None Detected
662-99-05-13-05-06	2' x 4' white ceiling tile; Center of central office	None Detected
662-99-05-13-05-07	Drywall	None Detected
662-99-05-13-05-08	Drywall	None Detected
662-99-05-13-05-09	Drywall	None Detected

No asbestos was detected in any of the samples collected from suspect materials in Building 662. Building 662 may be considered asbestos free, based on the analytical results of the samples collected.

#### 4.5 904 Pad

The 904 Pad consists of several fabricated tents consisting of metal frames with a high density covers. The tents are resting on an asphalt pad with black tar along the perimeters. The black tar acts as a caulking material between the tent and the asphalt pad and is considered part of the tent. The tent construction materials did not contain any suspect asbestos containing materials with the exception of the black tar. Fiberglass insulation was observed on some of the pipe, but it was clearly identified as fiberglass and was not sampled. Analytical results are as follows:

Sample Number	Material Sampled & Location	Analytical Results
904-99-06-17-05-01	904 Pad – Tent 8 – Northwest Corner	None Detected
904-99-06-17-05-02	904 Pad – Tent 9 – Northwest Corner	None Detected
904-99-06-17-05-03	904 Pad – Tent 10 – Northwest Corner	None Detected
904-99-06-17-05-04	904 Pad – Tent 11 – Northwest Corner	None Detected

523

**Wojtaszek, Paul**

**From:** Gonzalez, Andre  
**Sent:** Thursday, July 22, 1999 10:40 AM  
**To:** Wojtaszek, Paul  
**Subject:** 904 pad

Paul,

Asphaltic tar samples were collected around tents 8, 9, 10, & 11 at the 904 Pad. The asphaltic tar around tent 7 was not sampled because it is considered the same homogeneous material as around the other tents. For this reason, the asbestos results reported should include tent 7. If you have any questions, please do not hesitate to call me.

Thanks,

Andre

524 / 524